

Regional REWA Meeting Plans Workshop Session In Uniontown June 10-12

DETROIT—Refrigeration supplies wholesalers from Indiana, Kentucky, Michigan, Ohio, West Virginia, western New York, and western Pennsylvania will meet on June 10, 11, and 12, 1954, at the Summit hotel, Uniontown, Pa. for the annual summer meeting of REWA Region No. 5. The theme of the meeting will be "Better Sales Through The Wholesaler."

Manufacturers and their representatives are invited to this meeting and a special session is being arranged for them on the morning of June 10. Following this morning meeting, a joint meeting of wholesalers and manufacturers will be held. This session will be a workshop discussion on "Better Sales Through The Wholesaler."

Program Chairman Ray Lee, of Lee Equipment Co., Detroit, requests that manufacturers wishing reservations at the Summit hotel write directly to Sam Stewart, manager, The Summit Hotel, Uniontown, Pa., indicating a connection with the REWA Region No. 5 meeting.

JUST ASK US!

Turn to "What's New" Page for useful information on new products.

GM Parts Distributor Plans 60,000 Sq. Ft. Air Conditioned Building Near St. Louis

ST. LOUIS—Complete air conditioning is planned for the \$250,000 office and warehouse being constructed at Brown Rd. and Lindbergh Blvd. here for the United Motors Service Div. of General Motors Corp.

The 60,000-sq. ft. building, including 7,000 sq. ft. of office space, will be all on one floor, permitting the GM parts and accessories distributor to use mechanical warehousing equipment, not practical in its present midtown location.

New Babies Need New Air Conditioning, Says Board at Baylor Hospital

DALLAS—The Florence Nightingale Maternity Div. of Baylor university hospital here recently moved to new, air conditioned quarters on the third and fourth floors of the hospital's Baylor building.

At the same time, the former home of the division, located on the Baylor grounds, was closed. Inefficient air conditioning was one of the reasons the old unit was abandoned, according to Charles E. Moore, chairman of the Dallas executive committee of the Baylor university board of trustees.

Contract To Air Condition Keesler AFB Hospital Let

BILOXI, Miss.—Contract for air conditioning of a new \$5 million general hospital at Keesler Air Force Base, Biloxi, has been awarded to the firm of Warren, Knight & Davis of Birmingham, Ala., according to the Army engineers in Mobile, Ala.

The contract called for the firm to design modification in plans necessary to install a complete air conditioning system in the hospital, and to provide engineering services during the construction of the hospital, according to the announcement.

'Icebox' for Eskimos Keeps Fresh Food from Freezing

DAYTON—Air Force engineers believe they have come up with a kind of "icebox" they could sell to Eskimos.

Engineers at Wright-Patterson Air Force Base's air materiel command recently flew one of the freezers to the Arctic for test purposes.

It serves as a vacuum to keep fresh foods and vegetables from freezing solid in isolated radar and observation posts within the Arctic Circle.

If successful, the "icebox" will be mass produced for air drop delivery for use in sub-zero climates.

Appliance Makers See Slim Chance To Halt Transshipping

WASHINGTON, D. C.—Chances that appliance manufacturers could get Justice Department approval of any selling agreements designed to put a stop to product transshipping appeared slim in view of the department's recent disapproval of a proposed new General Motors contractual clause.

Intended to halt "bootlegging" of new cars, the proposed GM clause would prohibit franchised dealers from selling any new model GM cars at wholesale without first offering the cars to GM for repurchase at the price the dealer paid.

The Justice Department advised General Motors that it "could not undertake to waive the institution of criminal proceedings with respect to such contractual provisions should they decide to test their legality . . . since they raise important questions under the anti-trust laws."

Although the department said it was still studying the general subject, its decision on the GM proposal apparently reflects its attitude regarding contractual provisions.

Harlow Curtice, GM president, said the corporation would not put the clause into effect even though GM attorneys feel it does not violate anti-trust laws.

Sound Control Authority Joins Burgess-Manning

CHICAGO—Dudley W. Day, vice president of Burgess-Manning Co. here, has announced the appointment of Allen Wilson of Chicago as director of merchandising for the Architectural Products Div., manufacturer of the Burgess-Manning 3-way functional ceiling, acoustical-booths, and specialties.

Wilson has been a member of the acoustical department of the Celotex Corp. and was assistant manager of that department for seven years. He has been closely associated with the architectural acoustical field and sound conditioning since the early forties.

Prior to joining Burgess-Manning he was manager of the Suspended Ceilings Div., Cleveland.

Admiral Celebrates 20th Birthday with \$8 Million Giveaway Program

CHICAGO—It's Admiral Corp.'s 20th birthday, but the public will receive the gifts, according to Edmond I. Eger, vice president-advertising.

He said every purchaser of a current 1954 Admiral TV set or major appliance listing for more than \$195.40 will be given a new 1954 deluxe \$79.95 Apex vacuum cleaner complete with attachments free during the next 60 days.

In those localities where free offers are not permitted, dealers will charge a nominal price for the vacuum cleaner.

Eger said the Apex units will be sold by Admiral considerably below established distributor cost and added that Admiral distributors will be billed at \$29.95 per unit, FOB Sandusky, Ohio.

In setting up its 20th anniversary promotion, Admiral placed an order for 100,000 Apex swivel-top, canister type vacuum cleaners with a retail value of \$8,000,000. It is believed to be the largest single purchase in the history of the vacuum cleaner history.

The May-June promotion will be featured in a concentrated advertising campaign using full-page national newspaper ads and special co-op ads with dealer identification. Direct mail pieces, as well as window banners and spot announcements also will be available.

Admiral Corp.'s history dates back to April, 1934, when the company was established by Ross D. Siragusa, president, John B. Huarissa, executive vice president, and two other associates, to produce radios.

Sales volume in the young company's first year was \$240,000. Admiral's total sales in 1953 exceeded \$250 million.

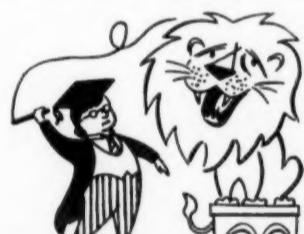
Cooling on the Docket

DALLAS—Commissioners Court recently instructed County Purchasing agent Charley Haggard to advertise for bids for eighteen 1-ton air conditioners for use in the old courthouse.

Estimated cost of the 18 units is \$4,662.

Most of the air conditioners will be used to cool the quarters now occupied in the various courts by court clerks and reporters.

TAME TOUGH Refrigeration PROBLEMS with "JOB TAILED"





DEAN COLD PLATES

MANY SHAPES
MANY SIZES
MANY METALS



SEND FOR TECHNICAL DATA BOOK

Contains valuable details on DEAN COLD PLATES for various applications. Write for your copy today!

DEAN PRODUCTS, INC.

Dept. AC
1042 Dean St. Brooklyn 38, N.Y.
STERLING 9-5400

SAVE money with DEAN "job tailored" cold plates . . . made exactly in the size you need—in zinc metalized steel, stainless steel and other metals—in cylinders, U's, angles, tanks, etc. Also in plates for baudelot-type coolers.

SEND FOR TECHNICAL DATA BOOK

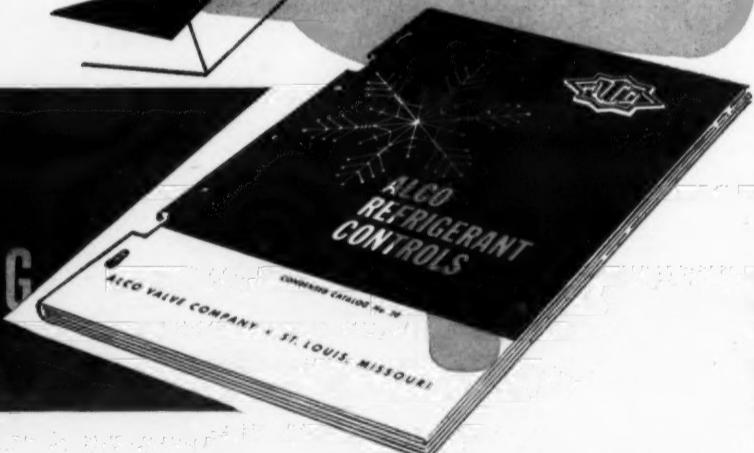
Contains valuable details on DEAN COLD PLATES for various applications. Write for your copy today!

125 models

**find your
solenoid valve
in a minute...**

in your

ALCO CATALOG



...the complete line of solenoid valves

at your fingertips. No lost time thumbing through other catalogs for any standard or special model!

WRITE FOR YOUR CONDENSED CATALOG NO. 20 . . . and technical bulletins 173 and 182 today.

SEE YOUR ALCO WHOLESALER

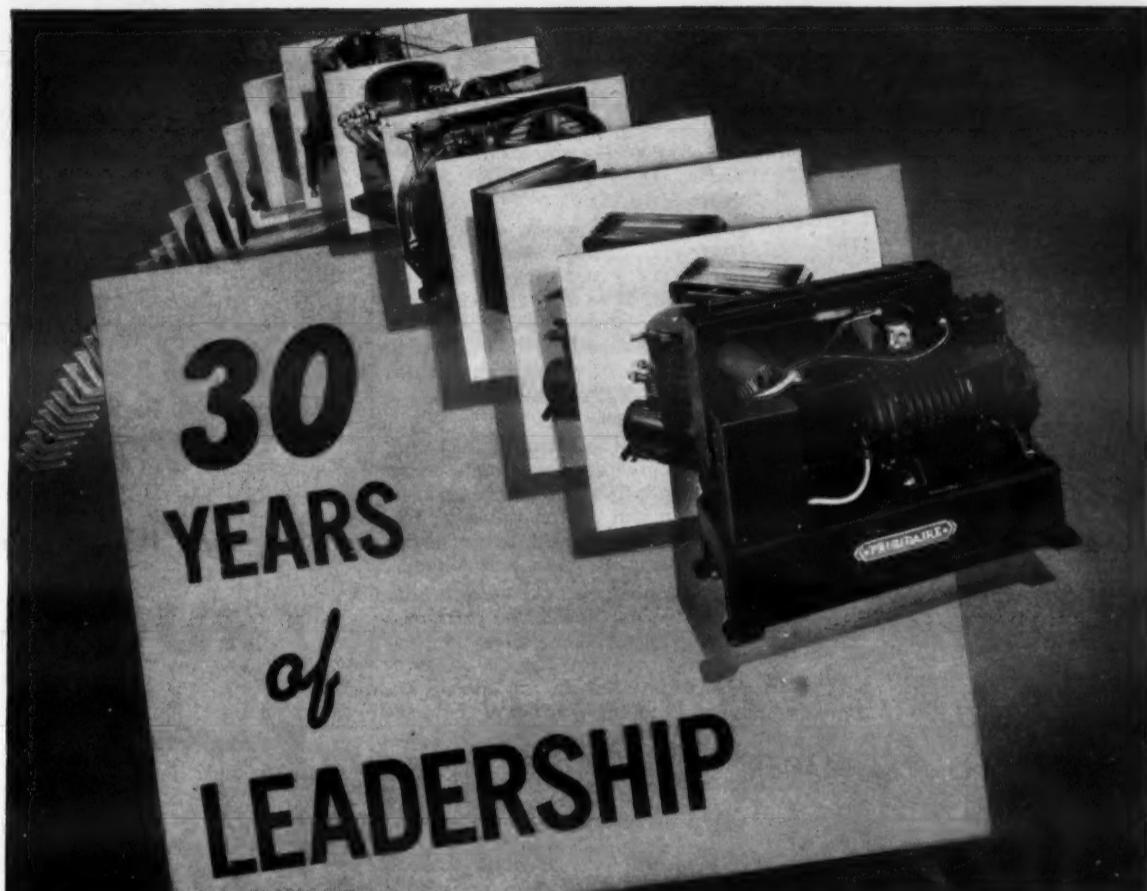


ALCO VALVE CO.

853 KINGSLAND AVE. • ST. LOUIS 5, MO.

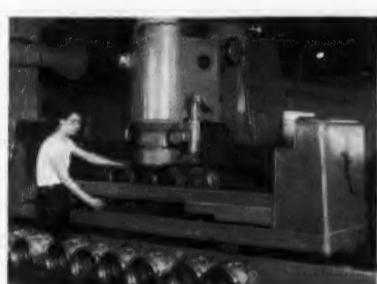
Designers and Manufacturers
of Thermostatic Expansion
Valves; Evaporator Pressure
Regulators; Solenoid Valves;
Float Valves; Float Switches.

Big Sales Opportunities Assured For Frigidaire Commercial Dealers



The development and continued improvement of the refrigeration compressor has been the backbone of Frigidaire's growth and expansion right from the beginning . . . for the compressor is the very heart of almost every single Frigidaire product.

The new XD Meter-Miser combines the best features of the rotary Meter-Miser, proved in millions of household refrigerators . . . and the reciprocating compressors — long the standard of quality and dependability in commercial applications.



Precision machine tools new to refrigeration industry guard Frigidaire quality.



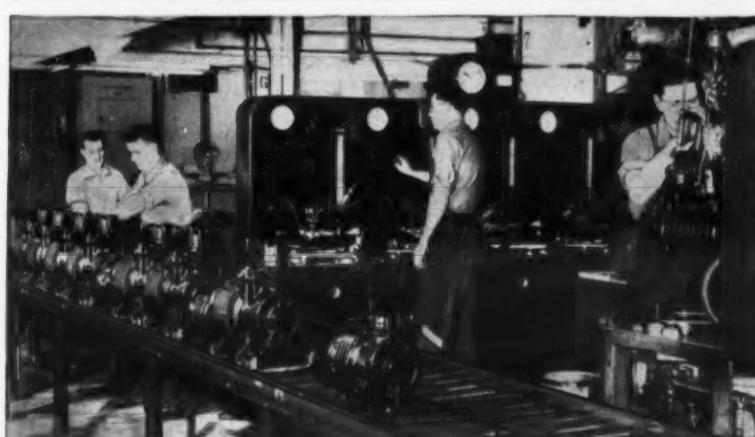
Crankshaft bearing surfaces are hardened by modern electric heat treatment.



Parts are inspected with electronic multiple gauges accurate to 1/10,000 of an inch.



Mile-long production line starts with first of many precise machining operations.



End of the line — completed compressors are individually test run before final inspection.

Huge six-story plant devoted exclusively to commercial compressor production

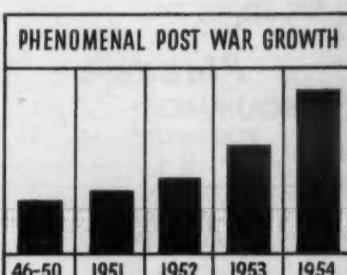
The large, modern plant shown here is an example of the important role played by commercial products in Frigidaire's operation. This building is used exclusively for the production of the XD Meter-Miser Compressor. With latest precision machine tools and equipment, and new manufacturing inspection, and testing techniques, it means more and better compressors to meet the growing demand in the field.

Concentration of Effort

Frigidaire will continue to put the major emphasis where there is the greatest opportunity for dealer sales — in packaged products and compressors. It means more complete lines of products, more features, better performance . . . and simplified installation and servicing.

This philosophy has paid off in the tremendous growth of Frigidaire's com-

mercial refrigeration business, as shown by the chart. And now, in 1954, Frigidaire is entering an era of still greater



activity in Commercial Refrigeration and Air Conditioning. Plans are underway that will surpass even the wonderful achievements to date.



VAST PLANT AREA! This entire plant is devoted to the production of the Frigidaire XD Meter-Miser Compressors. There are over 87,000 sq. ft. of area . . . over a mile of production lines.



STARTLING IMPROVEMENTS ON THE WAY! Great things are going on in the Frigidaire Engineering Department to put still better packaged products and compressors in the

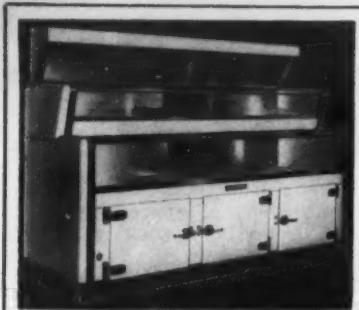
hands of Frigidaire Commercial Dealers. The forecast of things to come can only mean a wide-open sales opportunity for dealers from coast to coast.



FRIGIDAIRE

COMMERCIAL REFRIGERATION AND AIR CONDITIONING

—for growth and progress with General Motors



The Pinnacle LIFETIME PORCELAIN Self-Service Case

(Concluded from Page 1, Col. 5)

is a BIG PROFIT MAKER with a BIG SALES POTENTIAL among Small Store Operators!

This Pinnacle Double Duty Case will keep all fruit and produce green and saleable. What's more—freshness and quality are maintained for long periods. Then too, it will go through a 36° doorway! Exterior front, ends, and wearing surfaces of gleaming white lifetime porcelain. Both interior front and inside, adjustable sections flooded with light, modern, fluorescent lighting. Low operating cost. All shelves scientifically refrigerated. Comes in 6, 8, and 10-Foot Lengths. Single Duty Cases also available, as well as self-contained models. WRITE TODAY FOR 4-COLOR FOLDER!

**Pinnacle
EQUIPMENT CORP.
FLEETWOOD, PA.**

EXPORT DEPT.: 39 Broadway, New York

JUST ASK US

For "easy-to-get" product information... use coupon on "What's New" page.

Worst Abuses Are In The Store

"The worst abuses are in the store," one distributor declared. Others pointed out that frozen food deliveries sometimes remain on the floor beside the case for hours before being refrigerated. It was also noted that retail case temperatures are allowed to go too high and that surplus stocks are sometimes stored in dairy and meat cases.

Richard kept trying to establish a maximum allowable temperature for storing (suggesting 5° F.) and transporting (suggesting 10° F.). Industry representatives, however, continued to point out that under long-distance hauling conditions and during extremely hot weather, such temperatures could not be maintained.

While industry representatives

agreed that 0° F. or below was the proper holding temperature in warehouses, one distributor observed, "there isn't a warehouse in the state that can hold to that during the peak in the summer when heavy shipments are coming into the place."

Richard was told that he could find storage temperature of 10° F. and higher in summer, but he was advised that this wasn't as important as how long the temperature stayed up there.

As for keeping truck temperatures at below 10° F., one distributor commented: "Our trucks are well insulated and in summer we refrigerate them with a dry-ice charged blower system. But we can't hold them down to 10° F. in the summer. We need a maximum of 20° F. at least."

We've Tried All Types of Trucks . . .

Another said: "We've tried all types of trucks, including the mechanically refrigerated ones and finally settled on a well-insulated body refrigerated with dry ice. We compartmentalize the load by putting four curtains in from front to back and use a tank type floor that floats on four bolts. But we have one run from Hartford to Yonkers that would be in violation of a 10° F. maximum most of the summer months."

Another point not settled was whether the maximum figure would refer to average load temperature or to the hottest package. The difficulty of controlling shipments from outside the state was also discussed.

It was brought out that long haul shipments might defrost in transit and then be refrozen before entering the state. A suggested check would be to require recording thermometers on all shipments entering the state.

York Showing--

(Concluded from Page 1, Col. 2)

in, high, 36½ in. wide, and 26 in. deep.

Using any type of fuel oil or gas, the 2-hp. model delivers 80,000 and 84,000 B.t.u. output at the bonnet. It is designed for forced warm air systems.

Air flow dampers or "Season Changers" operate electrically, relieving the owner of any mechanical or physical effort in changing his indoor climate. Switching from heating to cooling or cooling to heating can be accomplished without requiring outside service, the company says.

Both the heating and cooling components are accessible from the front. The cooling component slides in and out on a drawer-like carriage, as does the entire set of electrical connections and controls.

The cooling section is essentially composed of two 1-hp. refrigeration circuits. When full cooling capacity is not required, the unit operates automatically on one circuit. Should outside weather require additional cooling, the added capacity comes on automatically to compensate for the greater heat load. The same holds true of humidity loads.

York also offers completely automatic humidifiers as additional accessories where needed.

The oil burner used in the oil-fired models is a special model, a cushion mounted gun type, manufactured to York's specifications by the C. A. Olsen Co., who is also producing the gas-fired units.

**ENGINEERED
TO MAINTAIN
ANY TEMPERATURE
REQUIRED
THROUGHOUT
THE TRIP!**



**THE IMPROVED
TRUCK
PLATE
With 4 Connections
For Easy Installation**

Economical to operate—with uniform temperature assured throughout the trip. May be charged by a self-contained unit on truck, or by connecting to a central system with DOLE special flexible connections. Can carry eutectic solutions ranging from -59° to +26°. Available in sizes to fit any application. In standard thicknesses: 4-Connection **Cold-Cels**—2½" and 2¾"; 3-Connection **Cold-Cels**—1" and 1½".

* Write today for
"Cold-Cels in Action"
— A Pictorial Brochure —

DOLE REFRIGERATING COMPANY

5920 NORTH PULASKI ROAD
CHICAGO 30, ILLINOIS
103 PARK AVE., NEW YORK 17

In Canada: Dole Refrigerating Products, Ltd.
44 Elgin Street, Brantford, Ontario

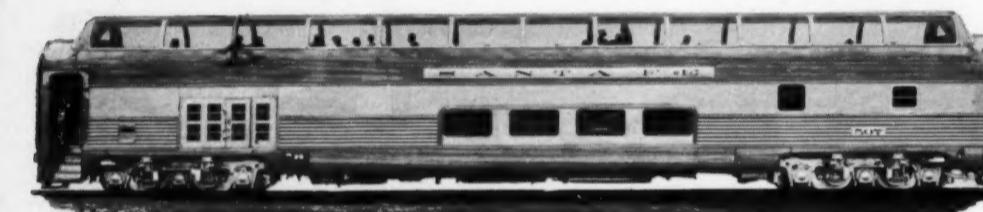


Photo Courtesy The Budd Company



To help assure continuous passenger comfort
THE TRANE COMPANY uses

SOLENOID VALVES

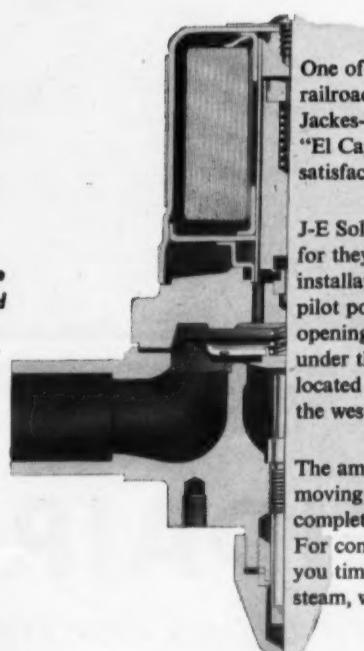
in Air Conditioning
Santa Fe Dome Cars
and Coaches



One of the toughest of all air conditioning installations is that of railroad passenger cars, and THE TRANE COMPANY selected Jackes-Evans Solenoid Valves for the cars on the famous Santa Fe "El Capitan" and other trains. They are helping to insure satisfactory operation of the improved TRANE air conditioning units.

J-E Solenoid Valves are particularly well suited to mobile equipment for they are not affected by motion, vibration, or angle of installation. This is due to the spring loaded plunger closing the pilot port and the diaphragm spring. In addition, their greater opening power assured the Santa Fe that these valves would open under the most adverse conditions where the condenser coil is located directly over the road bed that becomes excessively hot on the western desert.

The amazingly simple design of J-E Solenoid Valves—only two moving parts—rugged construction and advanced engineering assure completely dependable performance under the toughest conditions. For complete information on how J-E Solenoid Valves can save you time, money and trouble in controlling Freon, brine, ammonia, steam, water, air and gas, call your wholesaler or write.



SOLENOID VALVES THAT SURPASS THEIR SPECIFICATIONS
JACKES-EVANS MANUFACTURING COMPANY

Controls Division: 4427 Geraldine Avenue • St. Louis 15, Missouri



UsAireo Dividend Set

MINNEAPOLIS—Directors of United States Air Conditioning Corp. at a meeting held here recently declared a dividend of \$1.75 per share on its preferred stock, payable May 19, 1954 to holders of record May 10, 1954. Giving effect to this dividend, arrears on the preferred stock will amount to \$15.75 per share as of May 1, 1954.

3 ALL TIME CHAMPIONS!

**the only
complete line of
all-metal
constructed
commercial
refrigerators
in the world**



Model RW 40 S

A gleaming-white beauty . . . typical of the completely NEW line packed with exclusive features.



Model RS 60 S

The famous all stainless steel line . . . now completely restyled for unsurpassed beauty and performance.

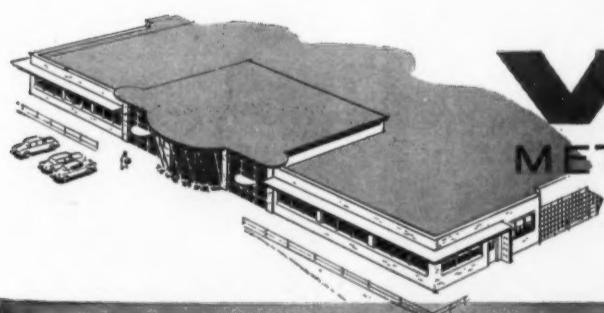


It takes time and experience to develop winners. Now — after 10 years of engineering development — Victory Metal Manufacturing Corp. introduces 3 lines that outclass all competition. Choose from over 200 models — there's a Commercial Refrigerator for every need in every price field.



Model RDA 45 R

The leader in the popular price field. Completely restyled, known for dependability and amazing economy.



VICTORY
METAL MANUFACTURING CORP.
PLYMOUTH MEETING, PA.

Victory's new plant—specially designed and built for efficient production of commercial refrigerators.

**G-E Forms Financial
Section for Commercial
Products Department**

BLOOMFIELD, N. J.—Formation of a financial section in the General Electric Co. Commercial Products Dept. has been announced by G. K. Iwashita, general manager.

Deane M. Coventry has been named manager-finance to head the new section.

Coventry will have charge of the department's financial functions including accounting, costs, payroll, budgets and measurements, and business procedures. He will report directly to Iwashita and will perform such functions as payroll services as required for the other departments of the Air Conditioning Div. in Bloomfield.

Coventry, a graduate of the University of Illinois, joined General Electric in 1934.

**To Air Condition Part of
Ironton, Ohio Hospital**

IROONTON, Ohio—The operating room, delivery room, and nursery of the General hospital here will be air conditioned at a cost of approximately \$20,000 under the terms of a bid contract. Bids from eight firms on the contract were to be opened May 10.

eliminate pump-to-drain disposal line with



NEW high-pressure Condensate DISPOSAL UNIT (MODEL CCC)

- **1/2 H.P. MOTOR** — pumps against 100 lbs. pressure
- **AUTOMATIC OPERATION** mercury float switch
- **HOT-DIPPED GALVANIZED TANK**

No need to run separate disposal line. Water is pumped directly into the condenser water line, through check valve furnished.

\$7450 { to contractors — or order through your jobber

for full information — write or call

ASHCRAFT CO.
MECHANICAL EQUIPMENT
5643 Dyer Street • Dallas, Texas

look ahead with



**PEERLESS
AQUA-SAVER**

America's most outstanding cooling tower

- 3 TONS THROUGH 30
- LONGER LIFE
- LOW INSTALLATION COSTS
- HIGH EFFICIENCY
- RECOGNIZED QUALITY

PEERLESS SALES, Aqua-Saver Div.
1811 Main — Little Rock, Arkansas

Send engineering & data Bulletin #SC-153.

Have your nearest distributor call on us.

Firm name _____

Address _____

City _____ State _____

Medical Authorities Say:

Cooling Seen as Aid in Resisting Disease, Mental Fatigue; Cold Air Not Cause of Colds

NEW YORK CITY—Well-designed and operated air conditioning can be healthier for the individual than the normal hot weather it replaces, a survey of medical opinion published in a recent issue of *Aspiration*, an Anemostat Corp. publication, indicates.

Dr. C. A. Mills of the University of Cincinnati said, "The body can meet short term emergencies with only slight changes in its internal temperature or behavior characteristics.

"But," he added, "following several weeks of difficulty in dissipating waste heat, physical and mental activity declines, and there is a drop in the combustion rate. Some of the glands of internal secretion, which so largely influence combustion rate, go into a less active, or resting, state."

PROLONGED HEAT DETRIMENTAL

Dr. Mills pointed out that these glandular changes bring with them changes in body functions, such as rate of growth, resistance to disease, and capacity to think. The body's ability to resist and survive infectious attacks goes down along with all other indices in long sub-tropical summers. Those weakened by prolonged heat succumb more readily to pneumonia, tuberculosis, and appendicitis in the approximate ratio of two to one.

Dr. Mills noted that loss of mental acuity constitutes perhaps the most disturbing phase of heat effects. College students given aptitude tests at the latitude of Cincinnati will score only 60% as well in summer as in winter.

"These observations," says Dr. Mills, "confirm the folly of summer sessions in colleges at lower latitudes unless the buildings be air conditioned."

Generally, physicians have wholeheartedly acclaimed the progress of air conditioning, *Aspiration* notes.

"Today, especially in the South," writes one of them in a leading metropolitan newspaper, "many homes of the well-to-do, and most stores, restaurants, and theaters are air conditioned. And I am much in favor of this cooling of the air."

MANY DOCTORS USE COOLING IN OWN HOMES

"During a hot summer people can work much more comfortably, and I think more efficiently, if they are cool. They are less likely to be tired at the end of the day."

Aspiration notes that hardly a general practitioner's or specialist's office in New York City, Chicago,

or other metropolitan area is without air conditioning today, and physicians have been foremost among professional men in providing a comfortable indoor environment for themselves and their families in air conditioned residences.

It is generally agreed upon by medical authorities that proper air conditioning is not a cause of colds.

COOL AIR NOT HARMFUL

"Luckily for most persons," writes the physician quoted in the foregoing paragraph, "cool air is not at all harmful to health. The Eskimos are a very healthy people, and yet in winter they keep going from their warm huts out into the air that may be 30 or 40° below zero."

"Curiously, cold-sensitive persons who, in summer, are distressed by a temperature drop of perhaps 15° F., in winter will accept without comment or protest a drop of perhaps 70° F."

Based on his wide experience, this physician believes that human beings who in summer are cold sensitive are either hypersensitives

who react violently to all sorts of stimuli, such as loud sounds, strong smells, bright lights, and changes in weather, or highly impressionable or worrisome women who are distressed in air conditioned rooms because no window is open.

He advises these persons to fight the fear that cold will be induced by cold air. "Sensitive persons must choose between the discomforts due to the heat of summer and the discomforts due to cool air. Better over-all health should go with the cool air."

The physiological requirements of the controlled indoor environment are thus summed up by Dr. Bedford, English physiologist:

(1) A room should be as cool as is compatible with comfort.

(2) There should be adequate air movement, but there should be no local drafts.

(3) The air movement should be variable rather than uniform and monotonous, for the body is stimulated by ceaseless change in environment.

(4) The relative humidity of the air should not exceed 70% and

should preferably be much below that figure.

(5) The average temperature of the walls and other solid surroundings should not be appreciably lower than that of the air; in fact, it preferably should be higher. The combination of cold walls and warm air often causes a feeling of stuffiness.

(6) The air at head level should not be distinctly warmer than near the floor, and the heads of occupants should not be exposed to excessive radiant heat.

To attain the objectives stated in the foregoing paragraphs, air conditioning systems must be correctly designed and operated.

WELL-DEvised, WELL-OPERATED SYSTEM CONDUCIVE TO HEALTH

"Well-devised and well-operated comfort air conditioning," says the *Journal of the American Medical Association*, "is conducive to health to a greater degree than is extremely hot, humid weather. Reasonable artificial air conditioning may be regarded as more nearly normal than those conditions imposed by the extremes of summer."

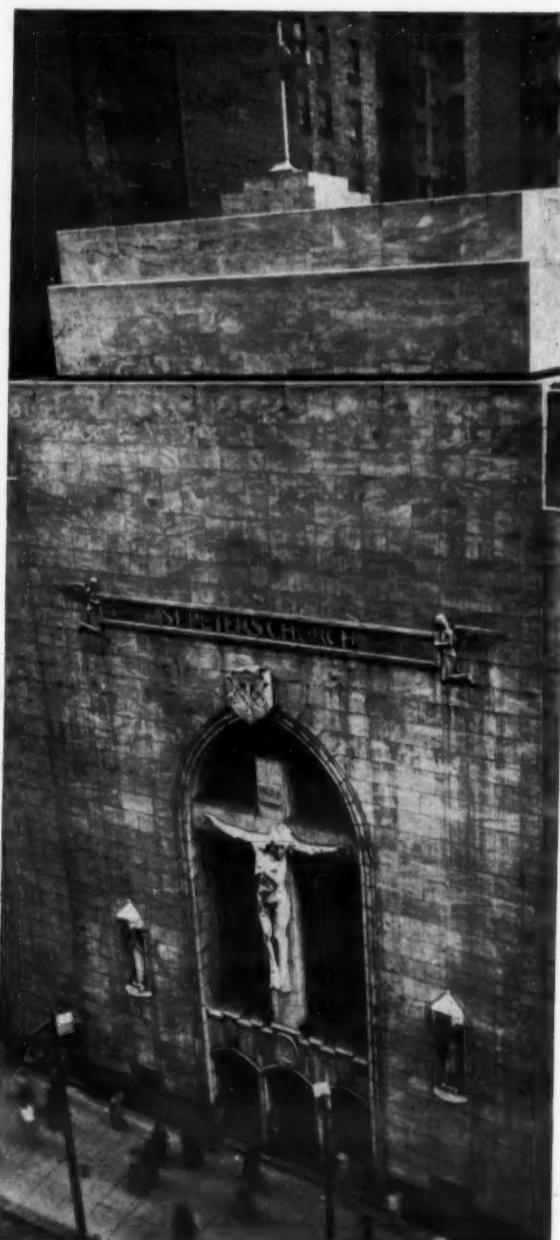
"The bane of comfort air conditioning is its misuse. Well-meaning operators sometimes provide harmfully low temperatures together with excessive air motion. Under such circumstances, discomfort is real and respiratory infection invited."

Air Conditioning untapped market with

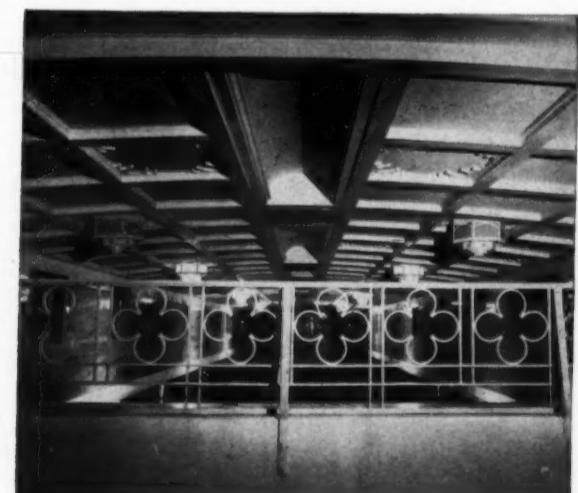
**Unusual benefits
to churches highlighted by
new Chicago edifice**

SCOPE WIDENING, BUT—

Year after year air conditioning keeps expanding, looking for new fields to serve. Yet despite these tremendous strides, many markets remain practically untapped. Among these, churches rank high. This market offers unlimited opportunity for air conditioning. It's vast, more universal than any other . . . and one that would surely benefit from air conditioning, as is proved by churches now enjoying this modern improvement.



St. Peter's R. C. Church, Chicago . . . massive, 5-story structure served by air conditioning. (Vitzthum & Burns, Architects; George W. Hubbard & Associates, Engrs.)



Central-station system assures ideal temperature and humidity conditions in one of church's four chapels. (Note ceiling ducts.)

Clear-cut evidence is seen in the case of St. Peter's Franciscan Church and Friary, located in the heart of Chicago's Loop business district. Completed last September at a cost of \$4,000,000, it is designed to

Servel Producing Room Air Conditioners Sold Under 'Wonderair' and 'Servel' Names

Specifications of the "Servel" room air conditioner line were combined with those of the "Wonderair" room air conditioner line in the special Air Conditioning Specifications issue of the NEWS on April 19. Inadvertently, they were not designated as a separate line. Both lines are manufactured by Servel, Inc.

Servel

Servel, Inc., Evansville, Ind.

Model No.	Size (In H.P.)	Cycle and Voltage	Dimensions (In.)—			Proj. In Room	Pump Out (Yes or No)	Suggested List Price
			Width	Depth	Height			
RAC-44*	1/2	60-115	15%	30%	11 1/2	7 1/2	No	\$249.50
RAC-64*	1/2	60-115	15%	30%	11 1/2	7 1/2	No	299.50
RAC-94S	3/4	60-115/230	25%	31 1/2	13 1/2	5 1/2	No	299.50
RAC-94	3/4	60-115/230	27%	31 1/2	15 1/2	16	No	349.50
		60-208						
RAC-94H†	3/4	60-115/230	27%	31 1/2	15 1/2	16	No	399.50
		60-208						
RAC-124	1	60-230/208	27%	31 1/2	15 1/2	16	No	399.50
RAC-124H†	1	60-230/208	27%	31 1/2	15 1/2	16	No	499.50

*Casing window models. †Reverse cycle heating.

Servel officials point out that the "Servel" line is sold through Servel appliance dealers and the "Wonderair" line is sold through Servel air conditioning distributors and dealers.

To correct the omission, the specifications of the Servel line of room air conditioners are published below:

UsAireo Sales for 5 Months Gains 52% over Year Ago

MINNEAPOLIS—United States Air Conditioning Corp. announced recently that its sales for the five months ended March 31, 1954 were \$3,458,000, compared with \$2,285,000 in the corresponding period a year ago, an increase of 52%.

The company's fiscal year ends Oct. 31. It manufactures air conditioning equipment.

Sectional Air Conditioning

MACON, Ga.—Bids will be opened June 1 for air conditioning two sections of the county courthouse here.

According to Clerk Marvin Newberry, the bids will cover cooling equipment for the courtroom and adjoining offices of City Court of Macon and the office and record room of the clerk of Superior Court.

Burns Co. Distributes Victor Line In Philadelphia Area

HAGERSTOWN, Md.—J. K. Noel, Jr., vice president in charge of sales of Victor Products Corp., has announced the appointment of Judson C. Burns, Inc., Philadelphia, as distributor for Victor products in the area which the company serves.

Judson C. Burns, Inc. is the oldest appliance distributor in the Philadelphia area and has been selling Victor commercial refrigeration equipment for the last 30 years under the supervision of Dave Young.

Samuel Glass, as president, heads the firm.

C. G. Goodmanson, general sales manager, has started a local advertising and merchandising program to support dealers in the sale of Victor's complete line.

Affiliated Gas Equipment Names Clary Vice Pres.

CLEVELAND—Howard L. Clary, assistant general manager and director of sales of the Bryant Heater Div. of Affiliated Gas Equipment, Inc., was recently elected a vice president of the corporation, it was announced by Lyle C. Harvey, Affiliated's president.

Clary joined Affiliated Gas Equipment, Inc., last November, prior to which time he was vice president at the Norge Div.

L. A. Electric League Campaigns To Simplify Phone Directory Listings

LOS ANGELES—The Electric League of Los Angeles is spearheading a national program to bring about uniformity and simplification of appliance-TV dealer headings in yellow telephone directories, it was announced recently by Glen Logan, managing director of the league.

Through league efforts and the cooperation of Pacific Telephone & Telegraph Co., the major directory of the Los Angeles area recently agreed upon a reduction of appliance-TV dealer headings from 44 to 19, Logan said.

This will make it easier for the public to locate the dealer, appliance-product, and service desired, and simultaneously reduce the dealer's cost of directory advertising, he noted.

The next step in the program, according to Logan, is to obtain a heading for "Appliance Dealers." He pointed out that the appliance-TV business is one of the nation's biggest and, therefore, those in it should be listed according to their business—Appliance Dealers.

"This program was in effect in the Los Angeles area and was subscribed to by close to 350 dealers who after several years' experience, feel that it is the answer to a uniform heading which can be referred to in all national advertising by appliance manufacturers," it was stated.

Other associations cooperating in the directory simplification program include the National Appliance & Radio-TV Dealers Association and the International Association of Electrical Leagues.

Air Conditioned Museum Approved for Atlanta, Ga.

ATLANTA—Building plans—including air conditioning—for Atlanta's proposed new art museum finally have been approved, according to Walter C. Hill, chairman of the New Gallery building committee. Construction will get underway in late summer and will take about a year to complete.

Hill said razing of the Scott Memorial Gallery, 1262 Peachtree St., N.E., will begin soon. On its site will rise a two-story, fire-resistant, air conditioned building.

The new building will be dark red brick, with white marble and aluminum trim. The builder's preliminary estimate of construction costs, including architects' and builders' fees, is \$620,000.

Cooling Contract Awarded

GREENSBORO, N. C.—Atlantic Engineering Co. has been awarded a \$37,589 contract for the air conditioning of Superior Court facilities here.

Johnson Heads Unarco Production Engineering

CHICAGO—Emil T. Johnson has been named vice president in charge of production and engineering for the Union Asbestos & Rubber Co., it was announced recently by Edwin E. Hokin, president.

Johnson joined Unarco in 1947 as head of engineering activities for the company's Fibrous Products Div.

A native of Joliet, he attended both Lewis and Armour Institutes and began his business career with the Economy Pumping Machine Co. of Chicago.

Subsequently he was employed by the Buda Co., Harvey, Ill., and during World War II was with the Lycoming Div. of the Aviation Corp. He started with Lycoming as a master mechanic, and was general plant manager when he left.

Prior to joining Unarco, he was a partner in the Lawrence Engineering Co. of Chicago.

Armistead Appointed by Dallas Car Cooler Firm

DALLAS—A. J. Humphreys, president of Coldtemp Automobile Refrigeration Co., Inc., new automobile air conditioner manufacturer here, has announced the appointment of Walter L. Armistead as project engineer.

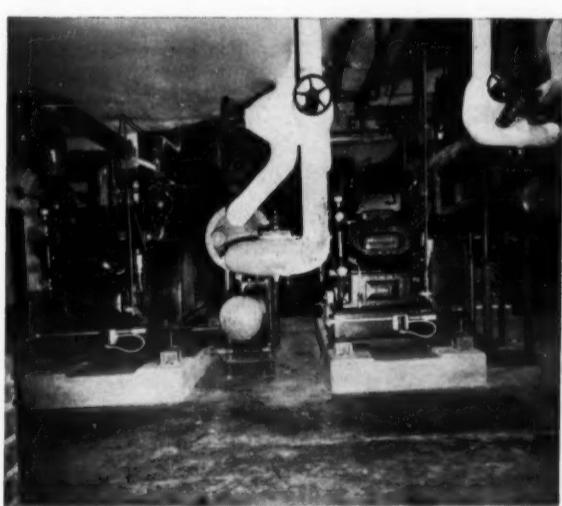
Production of units has already begun at the Coldtemp plant at 1400 East Jefferson. Humphreys also announced that plans are being made to merchandise the new brand auto air conditioner across the nation.

Churches—unusual potential

serve the spiritual needs of Catholics working nearby, and for travelers passing through the city.

CENTRAL-STATION SYSTEM OPERATING

In planning air conditioning for the 80' x 175' structure, it was decided that a direct-expansion system would prove best. Accordingly, Contractor S. J. Reynolds installed four 65-ton Vilter VMC compressors charged with Du Pont "Freon-12" refrigerant. Quiet and efficient, these units provide comfortable conditions in the four chapels (seating capacity, 2600), living quarters, study rooms, ad-



Vilter 65-ton compressors working smoothly in basement.

ministrative offices, and dining room . . . a total of 60 rooms. All space within the structure from basement to fourth floor is air-conditioned, with individual controls in each section.

To date, there has been a constant stream of worshipers . . . highly gratifying from the religious standpoint. Yet this mark of approval is significant also from the air conditioning aspect, particularly since it comes before the church has undergone a

Chicago summer—a time when air conditioning is appreciated to the fullest!

SUMMER BEST PROMOTION TIME

Study the churches in your own community. Probably few (if any) of them are air-conditioned. All might be. It's a market wide open for development, and now's the time to plan your sales-promotion campaign . . . before summer arrives. So contact all the churches in your district. Talk it over with pastors and members of congregations. They'll appreciate and recognize the benefits air conditioning would bring. Should go a long way toward helping you sell this untapped market.

And in discussing equipment, you can promote customer satisfaction by recommending units that operate with Du Pont FREON* fluorinated hydrocarbon refrigerants. Exacting laboratory-controlled methods of manufacture produce a safe refrigerant: nonflammable, nonexplosive, virtually nontoxic . . . one whose purity and uniformity contribute to long, efficient machine life. For more information on "Freon" Safe Refrigerants, send for illustrated brochure. E. I. du Pont de Nemours & Co. (Inc.), "Kinetic" Chemicals Div., Wilmington 98, Del.



F R E O N
SAFE REFRIGERANTS

*"Freon" is Du Pont's registered trade-mark for its fluorinated hydrocarbon refrigerants



BETTER THINGS FOR BETTER LIVING...THROUGH CHEMISTRY

ATLANTA—Building plans—including air conditioning—for Atlanta's proposed new art museum finally have been approved, according to Walter C. Hill, chairman of the New Gallery building committee. Construction will get underway in late summer and will take about a year to complete.

Hill said razing of the Scott Memorial Gallery, 1262 Peachtree St., N.E., will begin soon. On its site will rise a two-story, fire-resistant, air conditioned building.

The new building will be dark red brick, with white marble and aluminum trim. The builder's preliminary estimate of construction costs, including architects' and builders' fees, is \$620,000.

Cooling Contract Awarded

GREENSBORO, N. C.—Atlantic Engineering Co. has been awarded a \$37,589 contract for the air conditioning of Superior Court facilities here.

The ORIGINAL Air Conditioner with the CONVERTIBLE feature



DUCT TOP FOR HOMES

PLUNER TOP FOR COMMERCIAL USE

Lipman
AIR
CONDITIONING

Here's the answer to air conditioning sales . . . the Lipman "Convertible" . . . only the top is changed! Yes, use a plenum top for commercial jobs, a duct top for home installations. You stock only the basic unit and the two tops for lower inventory! Write Lipman Division of Yates-American, Beloit, Wis., for complete specifications and capacities.

LIPMAN REFRIGERATION
Division of YATES-AMERICAN
Gentlemen: I am interested in selling Lipman Air Conditioning. Please send information.

FIRM NAME _____
INDIVIDUAL _____
ADDRESS _____
CITY _____ STATE _____

WRITE TODAY!

INSIDE DOPE

U Learn to live and laugh—
Thus delay your epitaph **A**

By **GEORGE F. TAUBENECK**

(Concluded from Page 1, Col. 1)
the supply of the increased volumes required is now causing the utility companies to lose money.

In view of the above awkward situation, both E. Basco and the Canadian group are refusing to employ additional generating equipment capacity until such times as an improved rate will make it possible for them to regain their investment. The rapidly-growing industrial development in Mexico is placing heavier and heavier demands for increased and consistent power supply.

The above-described situation is further complicated by the fact that the normal quantity of electricity generated by water power is at the present time greatly curtailed due to no rains in the Torreon water-shed area for the past 20 months. The lake above the power dam at Torreon is so low at the present time that upon examination one can see the foundations of the penstocks. Because of this low water condition, the government has demanded the shutdown of unnecessary electric

generating equipment so that the remaining water supply can be utilized for watering cattle and irrigating the farms.

IV New Construction

One of the most gratifying sights today in Mexico is the large amount of new construction. To a person who has been visiting Mexico for the past nine years, this acceleration of building, which is evident at the present time, as compared with the usual normal amount of construction, indicates a new trend of thinking and investing.

As an example, I would like to point out two cities where vast sums of money have been spent during the past two years with a very marked result in the appearance of the entire community:

a. In Guadalajara two intersecting main streets have been widened until they now are beautiful thoroughfares. The fronts of the buildings on 14 blocks of city streets have been cut back to permit widening the street and then replaced with new, modernistic fronts giving the street the look of a brand new city. They have even installed a subterranean passageway under all of the main street intersections. This subway area is all lined with ceramic tile. It is well-ventilated, well-lighted, and houses beautiful, modern, clean shops. This subway makes it possible to cross any of the streets in the downtown area underground and completely inde-

pendent of the heavy traffic on the wide streets above.

b. In Torreon there is a heavy construction program in progress which is completely changing the look of this beautiful Mexican city. Torreon is only 50 years old so there are no old vine-covered buildings which are normally found in most Mexican cities. Recently there have been 11 new large buildings erected in the downtown area. These include office buildings, banks, theaters, and two ultra-modern hotels. One of the hotels (The Elvira) is now open for business and the service there is excellent. The other hotel is not completed as yet, but will be more luxurious when completed than the Elvira.

Another encouraging thing to be noted in Torreon is the safe drinking water and pasteurized milk which is available in all public eating places at no extra charge.

V Roads, Bridges, and Public Buildings

Another item of encouragement to a visitor is the improved conditions of roads, bridges, and public buildings. I had occasion to make several trips into the interior and I found the roads nearly as good as those encountered in Michigan. New bridges have been constructed, mountain roads are being formed and protected by safety devices, and public buildings are now a pleasure to visit as compared with the conditions found in '52.

For example, every community now has a new Social Security Center. From this center goes government aid for the sick, free maternity care to those needing it, and every financial assistance to people wishing to improve their business or purchase machinery with which to mechanize their factories or farms. The Social Security Center building is not of expensive architecture, but it is well-designed for light, ventilation, and utility. In general, they are located in the outskirts of the city, but they are situated on car lines or bus lines so that they can be reached by public transportation facilities.

Another great improvement is the condition found recently in the post offices and telegraph centers throughout Mexico. Today cleanliness, efficiency, and prompt service are evident in every city visited. The mail service is excellent and the occasions of lost mail have practically disappeared. Mailing charges have increased, by Mexican standards, but by American standards they are extremely low.

VI Air Transportation

We traveled entirely by air during our trip through Mexico. Prior to leaving Detroit our entire trip was planned and air reservations were made. At no time during the entire trip was our flight late nor did we encounter mechanical difficulties or interference with the arrival as per schedule. The equipment has greatly improved during the past two years. Schedules have been arranged to fit the requirements of the traveling businessman. The businessman is encouraged to take his family with him on these trips and everything possible is being done in Mexico to make air travel popular and efficient.

VII Expansion of the Middle Class

Prior to this trip to Mexico, the middle class of people had been conspicuous by their absence. Previously there was the wealthy class and the laboring class. Today it is very encouraging to see the expansion of activity with the middle class of people who are buying and building new, clean, modern homes. They are constructing these small modern homes around local religious or educational centers and it is surprising to see the number of families who now use cars for their private transportation. It is my belief that this rapidly-growing middle class will be the stabilizing factor in the future economy of Mexico.

VIII Aleman vs. Cortinas

In passing I would like to remark slightly on my opinion concerning the present and past presidents of Mexico.

Cortinas appears to be less strong than Aleman was. But he also gives the impression of being more honest. He is very popular and was very friendly with all classes of people. He travels with a very light body guard and speaks freely and easily with the laboring and middle classes of people with whom he seems to be extremely popular.

He is faced with much the same political situation that is facing President Eisenhower. He took over the control of the Mexican Government at a time when the governing body was heavily in-

fested with many strong men of the Aleman regime. At the present time many of Cortinas' plans are being thwarted by remaining "bad-boys" of the Aleman group who are doing everything possible to make the Cortinas rule as disappointing as possible.

IX Indication of Confidence

Banks, businessmen, and industrialists are indicating their confidence in the government of Mexico and the future of the Mexican economy by investing large sums of money in new buildings, new equipment, and new factories. Many times they are investing a large portion of their excess capital and then showing their confidence in the future by borrowing huge sums with which to proceed with their improvement program.

Money for loans in Mexico is extremely plentiful. It is also extremely expensive. For loans seven to 18 months the approved rate is 1½% per month. For long-term loans (18 months or longer), the approved rate is 1% per month.

A man loaning money is assured of an 18% return regardless of whether he loans it for a short period or a long period. Therefore, the banks are extremely interested in loaning money with a minimum of security.

Competition, businesswise, in Mexico has been complicated by the appearance of Japanese and European traders. In one instance I encountered an occasion where a German organization was offering 18 months credit on any amounts up to \$100,000. I was advised that this was possible because of the use of ECA funds which were credited on a two-year loan basis so they could give their customers 18 months credit and still make money from the ECA loan.

Prices on European-made products are higher than American prices on comparable equipment. With the exception of Swiss-made watches, the quality of European-made products does not compare favorably with American products.

X Summary

In conclusion, it is my opinion that the future of Mexico is extremely bright. Even the Mexicans believe so, and this is the first time that I have felt that Mexican middle or lower class groups were satisfied.

From observation, I believe that the cell of Communistic activity is located in or near Torreon. Interrogating a group of people regarding Communism brought this general answer:

"As long as the Mexican laborer has sufficient work from which to earn enough money for sufficient clothing, housing, and a reasonable amount left for entertainment, the threat of Communism in Mexico is relatively small."

The new University City at Mexico City is a marvel of planning and construction. Already it is attracting many hundreds of American students annually. The curriculum is modern; the faculty is able; the physical plant is above par even for schools in the U. S. There are smaller colleges of lesser importance in several other Mexican cities. Two of the more important being located in Guadalajara and Monterrey. In Monterrey the school is "Instituto De Tecnologico." It is a technical school rated extremely high throughout the world.

Mexico is preparing for the future.



YOU'LL SELL MORE PROFITABLE JOBS

with the complete line of

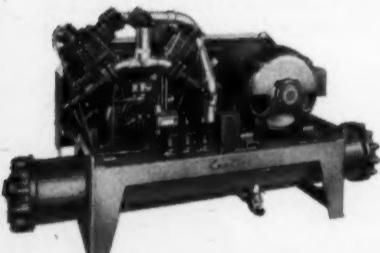
Curtis

AIR CONDITIONING AND
REFRIGERATION EQUIPMENT

Every product in the Curtis line is built with quality material and workmanship.

Curtis equipment is known around the world for its dependability and efficiency.

With the complete Curtis line, you can handle any installation for Home, Office, Store, or Factory.



Condensing units—through 80 tons



Evaporative Condensers,
Cooling Towers and Air
Handling units to match

Packaged Units—
2, 3, 5, 7½ and 10 tons
Choice of open or semi-
hermetic compressors...
and 15 ton packaged
Central type units



Residential cooling
and heating units



National advertising in Saturday Evening Post, Time, Newsweek and House and Home, plus many other publications helps sell Curtis to your customers and prospects. Attractive new sales literature is available to help you sell in your local area.

765
**CURTIS REFRIGERATING
MACHINE DIVISION**
OF CURTIS MANUFACTURING CO.

1912 KIENLEN AVENUE
ST. LOUIS 20, MISSOURI

Here's Harry Alter's DEPENDABOOK No. 161

REFRIGERATION PARTS and Supplies plus

Electric-Motor Parts, Air Conditioning and Heating

There are over 9,000 items illustrated,
described and rock-bottom-priced in our
newest DEPENDABOOK. So—get and use
this money-saver! Write for your copy to

The HARRY ALTER CO., Inc.

1728 S. Michigan Ave., Chicago 16, Ill.
134 Lafayette St., New York 13, N.Y.

1954

GET YOUR
COPY AND
SAVE MONEY!

Wholesale Only
Harry Alter
gives you
happy service

Commercial Refrigeration



JORDON is currently holding a series of meetings from coast to coast to acquaint its dealers with the growth and engineering achievements of the firm. Pictured above is the speaker's table and a portion of the guests present at the meeting in northern New Jersey. Seated at the speaker's table are: Philip Benn, Jordon; Harold Binder, Johns Sales Associates; Mr. Wallwork, Wallwork Bros.; Frank Kelly, Wallwork Bros.; Frank Fogel, Jordon president; Thomas W. Bender, Johns Sales; Terry Terhune, Jordon vice president; Harry Fogel, Jordon executive vice president; Mr. Wallwork, Wallwork Bros.; and Miss Bernice Goodman of Jordon. In the background are a variety of Jordon products.

Jordon Meetings Acquaint Dealers with Firm's Growth, Engineering Achievements

NEWARK, N. J.—A series of dealer meetings from coast to coast is currently being conducted by the Jordon Refrigerator Co. to give dealers the story of the company's development, growth, and new engineering achievements.

One of the largest of the series was held in the Military Park hotel here for dealers in northern New Jersey. The meeting was co-sponsored by Wallwork Bros.

Frank Fogel, Jordon president, talked on the trend in the refrigerator industry and explained the reason for Jordon's new million dollar factory.

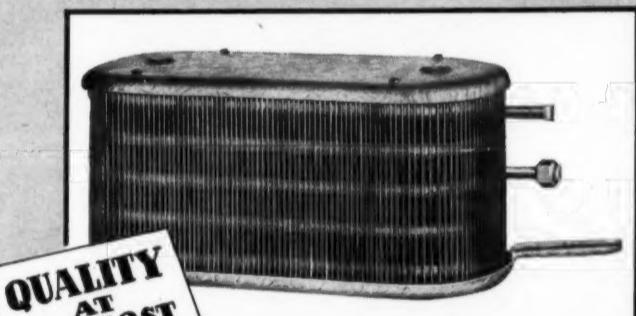
Harold Binder of Johns Sales

Associates introduced the Jordon line of refrigerators and freezers and suggested various applications for them. Philip Benn, assistant sales manager of Jordon's domestic division explained the new styling and markets for Jordon freezers and duplex models.

Frank Kelly of Wallwork Bros. outlined some of his experiences in selling refrigeration equipment, while Harry Fogel, Jordon vice president, explained what Jordon's cooperation means to the dealer.

Terry Terhune, vice president in charge of the commercial division, told how to sell any product and how to make a one-call sale.

BETZ RADAIRE



QUALITY
AT
LOW COST

FOR BACK-BARS BEVERAGE BOXES AND GENERAL APPLICATIONS

MODEL NO.	BTU'S @ 1° T.D.	C.F.M.	COIL SURFACE	LIST PRICE
A-85-U	85	190	17.3 Sq. Ft.	\$56.00
A-115-U	115	250	23.8 Sq. Ft.	\$68.00
A-150-U	150	310	31.8 Sq. Ft.	\$82.00

SEE THEM AT YOUR WHOLESALERS

BETZ CORPORATION
HAMMOND ★ INDIANA

Ice Cream Makers Have Second Best March Output

WASHINGTON, D. C.—March production of ice cream was the second largest for that month on record, being exceeded only by March, 1946, the U. S. Department of Agriculture announced here recently.

The 46,130,000 gals. produced in March was 1% more than last year and 12% above the five-year average (1948-52) for that month.

First-quarter output was 2% less than last year but 11% higher than the five-year average.

New Plant To Contain Special Temperature-Controlled Room

TORONTO, Ont., Can.—A special temperature-controlled standards room, necessary for the exact calibration of close tolerance instruments, will be a feature of the new plant being established here by Coventry Gauge and Tool Co. Ltd. Manufacturing activity will begin about June 1.

NCRSA Adds 2 Members

PHILADELPHIA—Addition of Kiesel's Co. of Salina, Kan., and Arthur L. Stone Co. of Erie, Pa. to its distributor membership has been announced by National Commercial Refrigerator Sales Association here.

Golf Ball Cores Wind Best at -150° F.

Overnight Storage In Low Temp. Unit Keeps Center Rigid

CINCINNATI—MacGregor Golf Co. here is now making unusual production use of low temperature treatment in the manufacture of their MT golf balls.

Difficulty the company had faced was this: to produce a lively ball it was necessary to wind the many yards of thin rubber tightly around the soft core. Yet winding under maximum tension tended to distort the core.

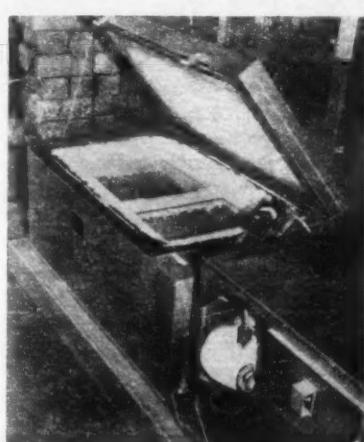
Various methods of freezing the cores before winding were tried, but none was completely successful.

Packing the rubber centers in dry ice overnight, for example, only froze them $\frac{1}{2}$ in. deep.

Thus, winding had to be started in less than one minute after removal. This was impractical from a production standpoint. No liquid chilling method could be utilized because of the slipperiness in handling cores so treated.

Bowser Technical Refrigeration, Terryville, Conn. was consulted on the problem and tests conducted to determine at what temperature the cores would freeze to a rigid state (determined by shattering under a hammer blow).

Bowser engineers, in cooperation with MacGregor engineers, de-



COLD TREATING golf ball cores before winding at the MacGregor Golf Co. This special unit was developed by Bowser Technical Refrigeration of Terryville, Conn.

termined that a standard unit operating on an overnight (8 hour) cycle at -150° F. had capacity sufficient to cold treat cores for a full day's production.

Following treatment at -150° F., cores are packed in dry ice, where they remain completely rigid for an indefinite period.

MacGregor officials report that this low temperature treatment method is proving highly satisfactory. Distortion of cores has been practically eliminated, rejection rate drastically reduced, and completed balls are more uniform.

YOUR SALES WILL SOAR IN FIFTY-FOUR

... WITH THESE NEW
MUELLER BRASS CO. PRODUCTS.
KEEP YOUR EYE ON CUSTOMER
SATISFACTION WITH THIS COMPLETE LINE.



Globe Type Line
Valves Straight-Thru
and Angle Types

Angle Type Cartridge Drier-Strainer

New "GUARDSMAN" Drier

Double Port Extended End - Copper
Tube Body Liquid Indicators

Single Port Extended End
Liquid Indicators

Double Port Extended End
Liquid Indicators

Drives
and
Filters

Wrot Copper
Fittings and
Copper Tube

Flare
Fittings

Liquid
Indicators

Valves

Be sure to get details on these new members of the great Mueller Brass Co. family of STREAMLINE refrigeration products as well as the addition of many new sizes to some of the present items with which you are already familiar. They're ready now to help you make your sales "soar in fifty-four"! ASK YOUR WHOLESALER.

MUELLER BRASS CO. PORT HURON 9, MICHIGAN

Testimony on Senate Safety Latch Bills

A U. S. Senate sub-committee has heard testimony recently on two proposed bills (S.2876 and S.2891) which would enact a Federal law making it a crime to manufacture a refrigerator, freezer, or icebox without an inside latch. Purpose of the proposed measures is to prevent the death of children who get into abandoned refrigerators and iceboxes, and die from suffocation.

The major associations and individual manufacturers in the industry are opposing the Senate bills for the principal reason that they do not feel that a Federal law is an answer to the problem. Part of the testimony presented by NEMA and ARI representatives is published here.

Also presented is part of the testimony of the inventor of a "safe refrigerator door closer" whose device has had some backing from RTA, which favors the passage of a Federal law.

Inside Latches On New Refrigerators Will Not End Deaths, Contends ARI

These two bills of somewhat different coverage have the same ultimate purpose, namely, to prevent death to small children through the device of making it unlawful to ship in interstate commerce certain household appliances, unless the same are equipped with a latch which enables them to be opened from the inside. Despite the laudable purpose of these proposals, ARI opposes these bills for two principal reasons:

1. The present problem involves, for the most part, abandoned or discarded refrigerators and the proposed bills, as I will attempt to show, will not meet this problem.

2. The proposed bills are predicated on the assumption that inside latches will remedy this danger. This assumption, in our opinion, is unwarranted by the facts as we know them.

Old Boxes Are Problem

With respect to our first reason, which is that the present problem concerns abandoned and discarded household refrigerators, I should point out that these bills are aimed only at preventing the introduction in interstate commerce of such equipment unless provided with inside latches. This means, primarily, new equipment leaving the hands of the manufacturer.

It also covers household refrigerators belonging to families who move across state lines to new communities. These also would be affected and, parenthetically, I might say that I am not at all sure that the sponsors of this legislation had this in mind.

In any event, these bills cover new refrigerators destined for immediate sale and use, or refrigerators which are being used. They do not reach the abandoned and discarded refrigerator or icebox,

which I think the record of these unfortunate incidents will show are the root and cause of our problem.

Approximately two to three million are being abandoned or discarded each year and for the next 10 to 15 years the refrigerators and iceboxes in use today will continue to be discarded and abandoned and the present peril will grow in dimension. The present legislation, however, cannot reach them.

With respect to my second basis for opposing this legislation, it is the strong feeling of those who are in a position to know that inside latches are not the answer to this problem. This is because the ones who are drawn to these attractive nuisances, and that is what these abandoned and discarded iceboxes and refrigerators really are, are children ranging in age from two to 12 with the great bulk averaging three to five years.

Panic In Darkness

It is common knowledge that children, as well as many adults, confined in utter darkness in a closely confined container are particularly subject to panic.

It is too much to expect them, under such circumstances, to have the knowledge, strength, or ability to locate or operate such a device. We submit that the proposed legislation is based on the assumption that these inside latches will be effective. We believe that such an assumption is contrary to common experience.

For both these reasons, namely, (1) the proposed bills do not meet the peril as it presently exists and will continue to exist for many years to come and (2) the means and method are not adequate; it is our strong belief that these bills are not sound and should be defeated.

We are all agreed that these abandoned and discarded iceboxes are an existing peril which will continue to exist as two to three million more iceboxes and refrigerators are abandoned or discarded each year. What, if anything, can be done to prevent this needless loss of life? I agree that the remedy, as other witnesses have suggested, lies in two main directions. These are:

Education Is Helping

1. A widespread continuous educational program to alert the public and particularly the children concerning this danger. You have already heard and will hear from other witnesses as to the participation of NEMA, RSES, REWA, and the National Safety Council in this nationwide effort. Our own organization, in addition to sponsoring an industry-wide meeting of groups and associations concerned with this problem, has conducted its own publicity campaign.

2. Passage of state and local ordinances making it a criminal offense to discard or abandon this equipment without scrapping it or removing the doors, lids, or hinges. ARI has already sponsored some

model legislation to this effect.

Over eighteen states and a hundred cities have adopted this type of legislation. Next year with more legislatures in session, it is likely that a large majority of the 48 states will pass comparable laws.

It is only by education and by legislation on the state and local level that this peril can be met. That has been the experience in the case of even a larger peril, i.e., automobile accidents, which last year alone accounted for over 38,000 deaths according to the figures of the National Safety Council. There has been much agitation to persuade Congress to pass laws to meet this problem.

Yet Congress has wisely decided that highway safety cannot be obtained by merely passing a law, and that such should be left to public education and state and local regulation.

It seems to us that the immediate problem before this committee, which took the lives of 84 children over the past six years, is best met in the same manner. Because the proposed legislation is defective as to coverage and inadequate as to method, and because the problem is only capable of being met by these other means, we strongly urge this committee to make an adverse report on S.2876 and S.2891.

Manufacturers, and other national groups in the refrigeration industry, firmly believe that the crux of this problem lies with the existing refrigerators and freezers which will be discarded over the next 20 years.

Action should be centered on the 2 or 3 million old refrigerators that will be discarded each year.

Crux of Problem Lies with Existing Boxes, Not New Ones, NEMA Points Out

We wish to present testimony which, we believe, shows conclusively that Senate Bill 2876, introduced by Senator Mansfield, and Senate Bill 2891, introduced by Senator Sparkman, and similar House Bills, should be disapproved.

Mfrs. Share Concern

Every manufacturer shares the profound concern of the sponsors of these bills and other governmental, business, civic, and safety leaders, over the deaths of small children who have been suffocated in abandoned iceboxes and refrigerators. While agreeing wholeheartedly with the objective of these bills of eliminating such accidents, manufacturers feel that inside safety releases would not provide an effective or proper solution.

Manufacturers, and other national groups in the refrigeration industry, firmly believe that the crux of this problem lies with the existing refrigerators and freezers which will be discarded over the next 20 years.

Action should be centered on the 2 or 3 million old refrigerators that will be discarded each year. To eliminate this potential hazard effectively:

1—discarded or unused cabinets should be destroyed; or

2—doors or lids should be completely removed—

3—for temporary storage of refrigerators or freezers that have been taken out of service, cabinets should be placed with their doors against a wall, or should have the door securely tied shut, or should have the hinges or latches removed—

Required action on discarded ice boxes and refrigerators can be accomplished by:

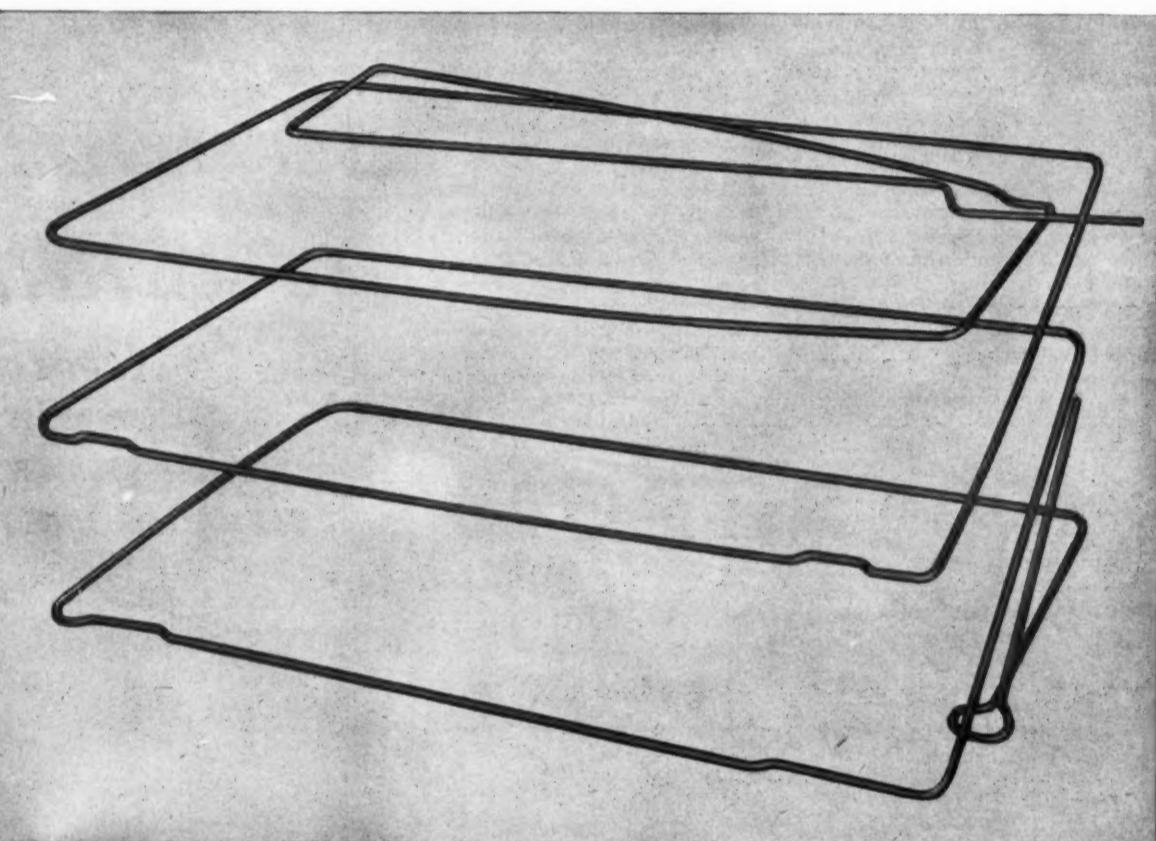
1—Widespread education and publicity, on a continuing basis, so the public becomes aware of this potential hazard to children, and knows the simple steps that should be taken to render cabinets harmless.

A national campaign to carry out this important objective is being supported by the manufacturers—through the National Safety Council—and by other industry groups.

2—The passage of city and state laws making it unlawful to discard iceboxes and refrigerators in such condition that they become potential hazards.

Eighteen or more states and over 100 cities already have enacted such legislation. Next year, when virtually all state legisla-

(Continued on next page)



The $\frac{1}{4}$ " O.D., anti-sweat home-freezer coil, shown above, requires 39 bends in its 40' length of Bundyweld; can be fabricated on a single fixture in a matter of seconds. Manufacturers have found that Bundyweld takes easily to complicated fabrication steps such as this.

Skip the trial-and-error process--change to Bundyweld now!



WHY BUNDYWELD IS BETTER TUBING



Bundyweld starts as a single strip of copper-coated steel. Then it's . . .



continuously rolled twice around laterally into a tube of uniform thickness, and



passed through a furnace. Copper coating fuses with steel. Result . . .



Bundyweld, double-walled and brazed through 360° of wall contact.



NOTE the exclusive Bundy-developed beveled edges, which afford a smoother joint, absence of bead and less chance for any leakage.

WALL WIRE PRODUCTS COMPANY
A FOREMOST NAME IN THE MANUFACTURE OF DIVERSIFIED WIRE PRODUCTS OF SUPERIOR QUALITY
*
WALL WIRE PRODUCTS COMPANY
A FOREMOST NAME IN THE MANUFACTURE OF DIVERSIFIED WIRE PRODUCTS OF SUPERIOR QUALITY
*
ORIGINATORS OF WIRE & TUBE CONDENSERS FOR STATIC AND FORCED CONVECTION, AND OF WIRE & TUBE FREEZER SHELVES
*
STAINLESS STEEL SHELVES, SHELVES WITH CHROME PLATE, ZINC PLATE, PRO SEAL AND PORCELIZED FINISH
*
WIRE GRILLES • GUARDS MATERIAL HANDLING BASKETS MISCELLANEOUS FORMED AND WELDED WIRE ASSEMBLIES ARC WELDED ASSEMBLIES.
WALL WIRE PRODUCTS CO., PLYMOUTH, MICHIGAN
*

(Continued from preceding page) tures will be in session, it is expected that many more states will take similar action.

Senate Bills 2876 and 2891, and similar House Bills, propose the requirement that refrigerators and freezers shipped in interstate commerce have inside safety latches.

It is the considered opinion of manufacturers and other segments of the refrigeration industry that such legislation will not be effective as a solution—and the passage of *such legislation would be most unfortunate and unwise*. In fact, it might well be the opposite of a solution.

The reasons are as follows:

Reasons for Opposition

1—The 50 million iceboxes, refrigerators, and freezers in existence today, and being discarded at a rate of 2 to 3 million per year, present a potential problem for the next 10 to 20 years. Should inside safety latches be developed and be installed on new cabinets, the safety benefits, if any, would not be realized for 10 to 20 years, until these cabinets are discarded.

Meanwhile, owners will continue to discard existing refrigerators, possibly being even more careless because they mistakenly believe that the refrigerator has an inside release.

2—There is little assurance that an inside safety release would still be operable after 10 or 20 years, when the box is discarded. Very

often the reason that refrigerators are discarded is that the various mechanical components wear out and do not function properly—the refrigerator latch is such a mechanical device.

In addition, a fully operable device would be useless if the cabinet were discarded on its back or set in an unlevel location where the door would not swing freely. Thus, even if a small child could operate an inside safety release, he probably would be unable to lift the heavy door and crawl out, since most children that have been trapped in old refrigerators were only 3 to 5 years old. Observations have shown that many old cabinets are wantonly discarded in just such a condition.

Freezers, which are comparatively new appliances and, thus, are not yet commonly being discarded, will present another problem because many have top-opening lids. An inside safety latch would be useless as the child clearly could not lift the heavy lid.

3—An inside release probably would not provide adequate protection. It is likely that a small child would become panicky on being locked in total darkness, and would not have the knowledge, strength, or ability to locate and operate such a device.

Question Child's Ability

Safety experts have little faith in a small child's ability to operate mechanical safety devices. It is a

common experience that small children cannot unlock a bathroom door or release an automobile door latch when they have locked themselves inside, even though they are being told how to do so by their parents on the outside. Inside safety latches might, thus, tend to create a false sense of security in the public mind and, as a consequence, the fundamental need of safety precautions in discarding refrigerators would be neglected.

4—Because only some of the shelves in a discarded box might be removed, it would easily be possible for a small child to become locked in a refrigerator, and the remaining shelves would block any contact with the inside safety latch.

5—The development and testing of any device which becomes part of a mass-produced product extends over many months. Should inside safety releases be used, exhaustive testing procedure must be utilized to be sure that the device actually would work under all conditions and that the technical problems in preserving food are fully met.

Legislation at this time, in our opinion, is not appropriate.

In summary, the manufacturers of refrigerators and freezers are convinced that legislation requiring inside safety releases would not provide an effective solution. This view is shared by other national groups in the refrigeration industry: the servicemen, the wholesalers, and the contractors.

Mfrs. Literature Cited

The Household Refrigerator and Farm and Home Freezer Sections of the National Electrical Manufacturers Association, in the fall of 1953, inaugurated a program under which the manufacturers would include in their literature, user instruction books, and on the warranty tags furnished with new refrigerators and freezers, a statement directing attention to the hazards of discarded refrigerators and freezers, and urging their customers to properly dispose of the old equipment which the new appliance is replacing.

Also dealers are provided with notices which urge their customers properly to safeguard and dispose of old equipment. These notices emphasize the potential hazard at the most important point—when the owner is about to discard an old refrigerator.

The week of June 6-12, 1954, has been selected for a concentrated national effort to publicize this hazard, and is to be designated as "Discarded Refrigerator and Freezer Safety Drive." This full-scale program, under the auspices of the National Safety Council, is being financed by the Household Refrigerator and Farm and Home Freezer Sections of the National Electrical Manufacturers Association.

Refrigeration Service Engineers Society (RSES) is an organization of servicemen and refrigeration installers, with national headquarters in Chicago, which has carried on a publicity program through its

200 local chapters in the United States for the past four years. These chapters have sought local publicity and, in many cases, their members have offered to remove locks from discarded refrigerators, at no charge. The organization has prepared and made available for distribution a strip film and movie which are being shown to industry groups and civic organizations. RSES has prepared a display poster pointing up the hazard, and over 6,000 have already been distributed.

ARI Education Campaign

Air-Conditioning and Refrigeration Institute (ARI), representing 150 manufacturers of commercial refrigeration and air conditioning equipment, has carried on its own publicity program. During 1953, news releases were sent to all newspapers throughout the country in cities having a population of 50,000 or more.

Refrigeration Equipment Wholesalers Association (REWA) has sent news releases to 187 newspapers, and has already distributed over 300 posters pointing up the hazard.

All of these industry supported programs are effective in making the general public aware of the potential hazard and educate the public as to how it can best be eliminated. This education, plus state and local legislation outlawing the improperly discarded refrigerator, will be effective in eliminating this hazard to the children of this country.

Inventor Describes His Latch Which 'Makes It Impossible' To Get Trapped

I present to your Committee a description of a new safety device which is designed to eliminate unsafe hardware on refrigerators and iceboxes. It is a magnetic no-latch type of lock which makes it impossible for a child to be trapped inside the box.

Center Shelf Controls Latch

The key to my invention is that a part of the mechanism is mounted on the center refrigerator shelf, so, when the center shelf is removed, the lock becomes inoperative. Thus with the center shelf in place, a child will not fit into the box; and with the center shelf removed, the door will not stay closed.

It's those discarded air-tight containers such as refrigerators and iceboxes that constitute a really dangerous "attractive nuisance" from which children need to be protected. And it's that hazard which this new magnetic device removes.

During the summer of 1953, newspapers and radios all over the nation carried accounts of numerous instances of suffocation in abandoned refrigerators. It seemed to me that by merely eliminating the positive holding devices of strikes and latches, it would be possible to invent a door closer that could be opened from the inside.

The next logical step was to place this magnetic door closer on a center shelf, so that when the center shelf were removed, a part of the door mechanism would be destroyed, and the door would not stay closed.

With the beginning of the new year, we began to devote our full time to acquainting the public with the existence and purpose of this new device, which we named SILOK.

In order quickly to bring Silok to the attention of the proper people, we called on E. Milton Dulin, assistant director of Public Health Engineers, District of Columbia, in early January, 1954. He referred us to the Refrigeration Trade Association of America, Washington, D. C.

It was R.T.A.'s opinion that Silok was the first worth-while invention brought to their attention which appeared to be a practical solution to the ever-increasing refrigerator deathtrap situation, and they felt that the Silok device should be brought to the attention of the public. For that purpose, they suggested that a Silok-equipped refrigerator be displayed—as its first presentation to the public—at R.T.A.'s Annual Convention in Richmond, Va. during late February.

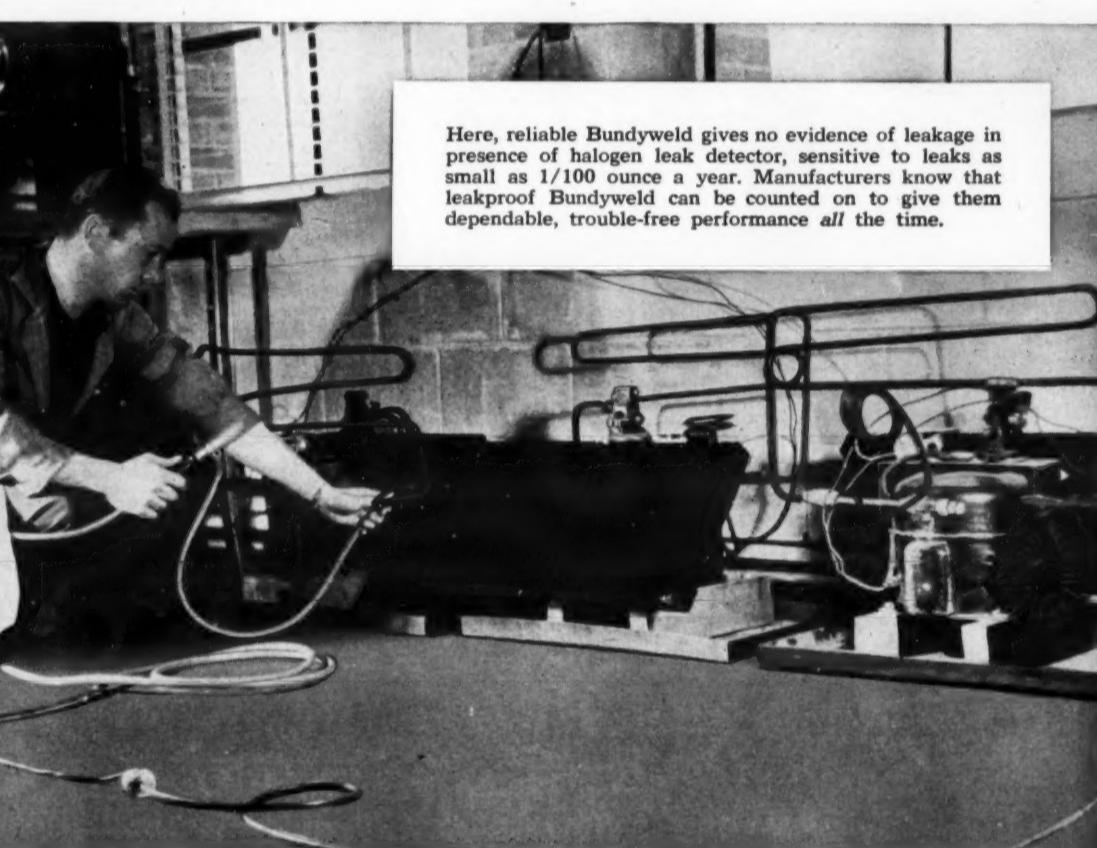
Crucible Steel Co.'s powerful Alnico magnets, well known to me for their use in military devices, were considered to be the most acceptable for use in Silok. Crucible's Washington representative, Ernest F. Mechlin, Jr., has cooperated fully with me in supplying magnets that meet the characteristics desired.

Latches In Production

Dependo Refrigerator Co., Washington, D. C., is cooperating in the introduction of Silok to the public by manufacturing these safety locks and making them available to owners or servicemen for installation on used refrigerators in the Washington area. The old latch-and-strike door lock would either be removed completely or be made inoperative.

It is anticipated that with sufficient public awareness and demand, safety refrigerator hardware will be forthcoming for both new and used refrigerators. Such demand should hasten the day when safety locks for refrigerators will be as commonplace as windshield wipers are on today's automobiles.

Redmond
MICROMOTORS
One of largest stocks
in the world!
FACTORY DISTRIBUTORS
CYCLE-FREEZ CORP.
MARVIN L. "FERGIE" FERGESTAD
P.O. Box #6, Dept. A, Minneapolis 16, Minn.
MOhawk 9-6794



Maybe you've found a tubing that's somewhat reliable for your evaporators, condensers, compressors, other refrigeration needs—except that it has a mind of its own during fabrication.

Or, perhaps you've dug up a tubing that handles fairly easily—but you can't count on it for reliable performance.

You're still looking for the right tubing.

We suggest that your search for a more reliable, easily fabricated tubing will eventually lead you to Bundyweld. Reason: It has been the refrigeration industry's standard of

dependability for 20 years.

Why not skip the trial-and-error process—wasted time, delivery delays, expensive research, possible damage to your product reputation. Why not measure Bundyweld against your needs right now.

Bundyweld is leakproof by test; thinner-walled yet stronger; has high thermal conductivity; takes easily to standard protective coatings. Whatever way you attach tubing—weld, braze, or mechanical clinch—Bundyweld sticks to your supporting member solidly, for keeps.

In addition, Bundy offers

you unexcelled fabrication facilities; expert engineering services; custom-packaging of orders; prompt, on-schedule deliveries. Whether you fabricate your own parts or want us to do the job, we're equipped to handle your order—exactly to your satisfaction.

Why not turn your tubing headaches over to our staff of engineering experts now? They specialize in solving tricky problems, look forward to helping you with yours. Call, write or wire us for information or for help with your problem.

BUNDY TUBING COMPANY
DETROIT 14, MICHIGAN

BUNDYWELD TUBING®

DOUBLE-WALLED FROM A SINGLE STRIP

Bundy Tubing Distributors and Representatives: Bridgeport, Conn.: Korhumel Steel & Aluminum Co., 117 E. Washington St. • Cambridge 42, Mass.: Austin-Hastings Co., Inc., 226 Binney St.; Chattanooga 2, Tenn.: Peirson-Deckins Co., 823-824 Chattanooga Bank Bldg. • Chicago 32, Ill.: Lapham-Hickey Co., 3333 W. 47th Place • Elizabeth, New Jersey: A. B. Murray Co., Inc., Post Office Box 476 • Los Angeles 58, Calif.: Tubesales, 5400 Alcoa Ave. • Philadelphia 3, Penn.: Rutan & Co., 1717 Sansom St. • San Francisco 10, Calif.: Pacific Metals Co., Ltd., 3100 19th St. • Seattle 4, Wash.: Eagle Metals Co., 4755 First Ave., South • Toronto 5, Ontario, Canada: Alloy Metal Sales, Ltd., 181 Fleet St., East. Bundyweld nickel and Monel tubing are sold by distributors of nickel and nickel alloys in principal cities.

Residential Air Conditioning



Norman Holds Technical Sessions for Sales Staff on Year-Round System Cooling Unit

COLUMBUS, Ohio—The sales and engineering staff of Norman Products Co. here recently held the first of a series of technical meetings to familiarize Norman's sales organization with the package cooling unit developed for use with the Norman year-round air conditioner.

Homer Schmitt, newly-appointed refrigeration engineer in charge of cooling, conducted the session. He

will continue to conduct similar technical schools for Norman's sales organizations throughout the country.

The Norman cooling package can be incorporated with existing warm air systems provided that ductwork in the home is adequate for cooling. The unit is especially adapted for concealed installation in the attic or crawl-space of today's modern one-story dwellings.

Enters Residential Field

American Air Filter Adds Baseboard Radiation Units to Ventilating Line

LOUISVILLE, Ky.—Marking the company's entry into the residential heating field, American Air Filter Co. here has added baseboard radiation units to its line of Herman Nelson heating and ventilating products, it was announced recently.

Herman Nelson unit ventilators and other heating and ventilating products have been sold mainly in the school, commercial, industrial, and institutional fields. AAF air filter and dust collecting equipment has generally been used in industrial and air conditioning installations.

According to company engineers, the new baseboard units were designed for perimeter heating systems, "maintaining uniform temperatures from floor to ceiling."

The heater has also been designed to prevent wall streaking, it was stated. Its cover is formed so that the outlet grille slopes upward and outward. "Thus," the company said, "the heated air flow is sent outwards into the room, rather than up along the wall."

Packaged for stocking by jobbers and wholesalers, the units are available in 8-ft. lengths.

The complete, ready-to-install packages include pre-punched metal backplates, finned tubing

heating elements with fittings, heating element supports (hangars and joiners), front cover plates with grille, corner, and end plates. Dampers are also available.

Parts are all designed so that the heating installation can be made quickly, without special tools, drilling, or punching, the company said.

Both flush and recess models are offered, one size of the recess style projecting 1½ in. from wall.

Year-Round Systems Planned For 69-Home Project In N.Y.

ARDSLEY, N. Y.—The first of 69 homes in the Concord Heights development here, that will be year-round air conditioned, was opened recently by Willnorm Homes, Inc.

Called the Wellington, it is a split-level home with six rooms and two baths priced at \$23,750. In addition to the split-level home, the subdivision will also contain Cape Cod style homes with seven rooms and two baths.

Air conditioning will be supplied by Carrier Weathermakers sold to the builder by Carleton-Stuart Corp. of New York City.

Aims at Home Market

BATON ROUGE, La.—Residential Heating & Air Conditioning Co., Inc., 4823 North St. here, has been granted a charter by the secretary of state. Authorized capital stock was listed at \$70,000.

All-Air Conditioned Home Project First In Detroit

OAK PARK, Mich.—The Detroit area's first major realty development to specify air conditioning as standard equipment in every unit is under way in suburban Oak Park, builder Albert Winick announced recently.

Sixty-one homes, expected to sell for \$25,000 to \$35,000, including Chrysler Airtemp's year-round air conditioning, will be constructed this year in Oak Park Manor by Albert Home Builders.

T. H. Brehm, Sr., whose company will install the air conditioning, stated: "We have ordered 27 oil-fired Chrysler Airtemp winter air conditioners with two and three horsepower summer air conditioners. By including air conditioning in the preliminary design, we have been able to incorporate many features which not only will cut down on the original installation cost, but will assure ideal indoor climate at relatively low cost for the occupants."

Floor areas measure from 1,500 to 1,850 sq. ft., on 70 to 100-ft.-wide lots. Eight and 12-ft.-wide "panaview" sliding glass wall sections will join interior and exterior in a gracious, relaxed concept of modern living, Winick stated.

Thirteen contemporary and 14 traditionally-styled homes comprise the first group of 27, which Winick plans to open in May. Low-pitched roofs, wide overhangs, and heavy insulation in walls and ceilings are planned.

Four basic floor plans, with many variations and elevations will assure distinctive treatment for individual homes, Winick said.

is something
ALWAYS
missing?
(to cut your profit)

...then switch to the one line that meets every selling need

***EXAMPLE No. 4:** You gain three advantages—*profitwise*—when you sell the Bryant line. First, because it's a *quality* line, Bryant discount structures are arranged to give you the highest and broadest profit margins. Second—and again because it's a *quality* line—Bryant protects your earnings against profit-shrinking "call backs". Last, because it's the most complete line of heating, air conditioning and water heating equipment in the industry, Bryant gives you *more* opportunities to make sales—and profit!

Your nearby Bryant Distributor has complete details. It will pay you to call him today.

Bryant Heater Div., Affiliated Gas Equipment, Inc., 17825 St. Clair Ave., Cleveland 10, Ohio

bryant
HEATING AIR CONDITIONING WATER HEATING

1. The most complete line in the industry
2. Quality products—Competitively priced
3. Established name—Good customer acceptance
4. Broad, attractive profit margins
5. Local Distributor warehousing and service
6. Factory district representatives and traveling sales training and service teams



Why Do People Buy AIR CONDITIONING?

There are *eight reasons why people buy Air Conditioning!* Every dealer, every salesman, and every man who makes his living in air conditioning should know these reasons why people buy. AIR CONDITIONING & REFRIGERATION NEWS gives the answer to this question—and many more in its new 115-page book . . .

AIR CONDITIONING And Its Application

Here is one of the most valuable collections of reprints from AIR CONDITIONING & REFRIGERATION NEWS. Gathered together under one cover are articles on Growth and Future of Air Conditioning, What Salesmen Need To Know, Automobile Air Conditioning, How To Sales Promote Air Conditioning, Who Are the Buyers, What Will People Buy . . . these are only a few of the 103 vital subjects among the most important articles on air conditioning published in AIR CONDITIONING & REFRIGERATION NEWS in the past two years.

114 pages, 8½ by 11 inches printed on quality paper.

ONLY \$1.50

Air Conditioning & Refrigeration News
450 W. Fort Street
Detroit 26, Michigan

Rush me my copy (copies) of AIR CONDITIONING And Its Application. I am enclosing my check or money order for \$.....

Name

Address

City..... Zone..... State.....

Kelvinator Contest Offers \$25,000 Home; Aimed at Building Floor Traffic for Dealer

DETROIT—Kelvinator's second annual "Homemaker's Holiday" consumer contest offers 1,181 prizes worth \$75,000, including a \$25,000 contemporary home.

Charles J. Coward, Kelvinator merchandising manager, said the contest will serve as a powerful floor-traffic builder for Kelvinator dealers during the peak spring appliance selling season. It will stress the theme that modern Kelvinator appliances can afford the homemaker a holiday from former chores.

Coward said first prize in the contest is a ranch-type three-bedroom "Holiday House," featuring a new type of room for family living that includes kitchen, dining, laundry, and recreation areas. The winner may choose the house award, which includes \$3,000 cash toward the purchase of an appropriate lot, or \$25,000 in cash.

Other awards are five second prizes of \$1,000 each, 75 awards of Kelvinator appliances, 100 prizes of \$100 each, and 1,000 prizes of \$10 each.

All residents of the United States except company employees are eligible for the contest, Coward said. Rules require the contestant to obtain an entry blank from a Kelvinator dealer, and in 25 words or less complete the statement: "I would like a Kelvinator (any Kelvinator appliance) for my Holi-

day Kitchen because. . . ."

The contest closes at midnight the Fourth of July.

"Holiday House" was designed by Charles M. Goodman, noted Washington, D. C. architect.

The living center of the home is a large L-shaped family room that incorporates a fabulous holiday kitchen," Coward said. "In addition, there is a large formal living room with fireplace and built-in woodbox; three full-size bedrooms grouped into a sleeping wing; complete bath and extra lavatory; and a carport and workroom separated from the rest of the house by a covered breezeway.

Coward said the holiday kitchen is L-shaped in arrangement, and stands at the corner of the larger L formed by the family room. The kitchen area has two walls, one including an 11-cu. ft. automatic defrosting refrigerator, sink, and storage cabinets, the other including a second sink, 18-cu. ft. upright freezer, and storage cabinets.

The electric range stands as an island, surrounded by a breakfast bar. Other Kelvinator appliances in the home include an automatic washer and dryer in a laundry recess nearby in the family room, a garbage disposal unit, and a room air conditioner.

Water Heater Plan Brings Salesmen Into Homes

CHICAGO—Bringing dealers into the customer's home for a look-see at her appliance situation is the object of a free water heater check-up plan announced recently by the Norge Div. of Borg-Warner Corp. here.

Literature urging the check-up is now going into every automatic and conventional washer leaving the factory, according to J. R. McMillan, water heater sales manager.

Business reply cards requesting the inspection are included for the customer to return. Returned cards are processed and leads given to distributors and dealers.

McMillan, in a letter explaining the plan to dealers, lists six ways to make the follow-up pay off.

1. Check the age and brand of the heater in use. If it's a little-known brand or more than five years old, chances for a sale are good.
2. Determine water requirements. Small children in the family mean double water needs.
3. Point out that the newly-purchased washer or other new water-using appliance increases the hot water need.

4. Inspect gas water heater burner for corrosion.
5. Point out that both gas and electric models are available.
6. Be alert for appliance needs.

SPECIALTY SELLING METHODS

Hotpoint Revives Sales 'Film & Guide' Meetings

CHICAGO—A series of "Film & Guide" meetings designed to equip dealer and retail salesmen with 1954 product knowledge in the coming months of competitive selling has been announced by Hotpoint Co. through its zone managers.

Made up of two items, a slide film and a meeting leader's guide, the packages are distributed to Hotpoint zone managers who conduct meetings for distributor salesmen. These salesmen, in turn, conduct meetings for retail salesmen and dealers.

"We introduced this program during the early months of 1953 and results expressed by distributors, zone managers, and dealers were the determining factor in re-introducing the program in early 1954," D. D. Thompson, Hotpoint Co. sales training manager, said in announcing the new series.

The slide films contain features of the various company appliances, presented in a manner that the viewer remembers what he has seen. Each slide film takes a group of products or theme to be developed in connection with the

meeting leader's guide and presents it to the audience.

The meeting leader's guide contains suggestions for planning, preparing, and conducting the meetings, including narration by the leader for the films. The guide is so flexible that no matter who uses it—zone manager, distributor salesman, or dealer sales manager—only one guide is needed for all groups.

Specific information or detailed sales data, applicable to certain areas, can be included without deviating from the guide's overall theme.

To supplement the program, summary booklets are available for the audience to take home and use for reference material. Discussion sessions also are encouraged after meetings.

Perkins Sales of Detroit New Gibson Distributor

GREENVILLE, Mich.—J. L. Johnson, vice president in charge of Gibson sales, recently announced the appointment of a new distributor for the Detroit area—Perkins Sales Co.

R. T. Perkins is president of the Perkins company and Harold Smith is secretary treasurer. The firm will be full-line distributor.

Ice Water Flows Freely In Crosley Campaign

NEW YORK CITY—A month-long campaign promoting the ice water tap in the door of the Crosley model CAP-125 refrigerator will be conducted here during May by Gerald O. Kaye & Associates Corp., local Crosley-Bendix distributor.

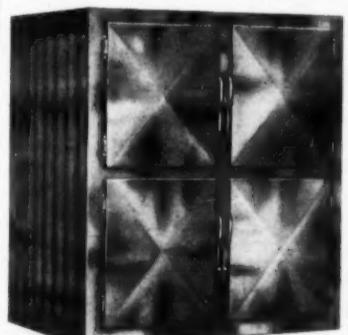
For participating dealers, the distributor is installing free a window demonstrator model with ice water continuously flowing into a glass. The distributor also supplies at no charge a water circulating pump and a colorless siphon arrangement so that the glass never overflows.

Dealers are urged to have an operating model of the CAP-125 on their display floors supplied with water. They are asked to give each customer a drink of ice water from the tap to interest him in a demonstration.

As an added incentive, the distributor is sending a shopper to each store at least once during the month. The shopper will pay \$10 to every dealer who offers him a glass of ice water from the refrigerator.

The distributor is backing the campaign with newspaper, TV, and radio advertising.

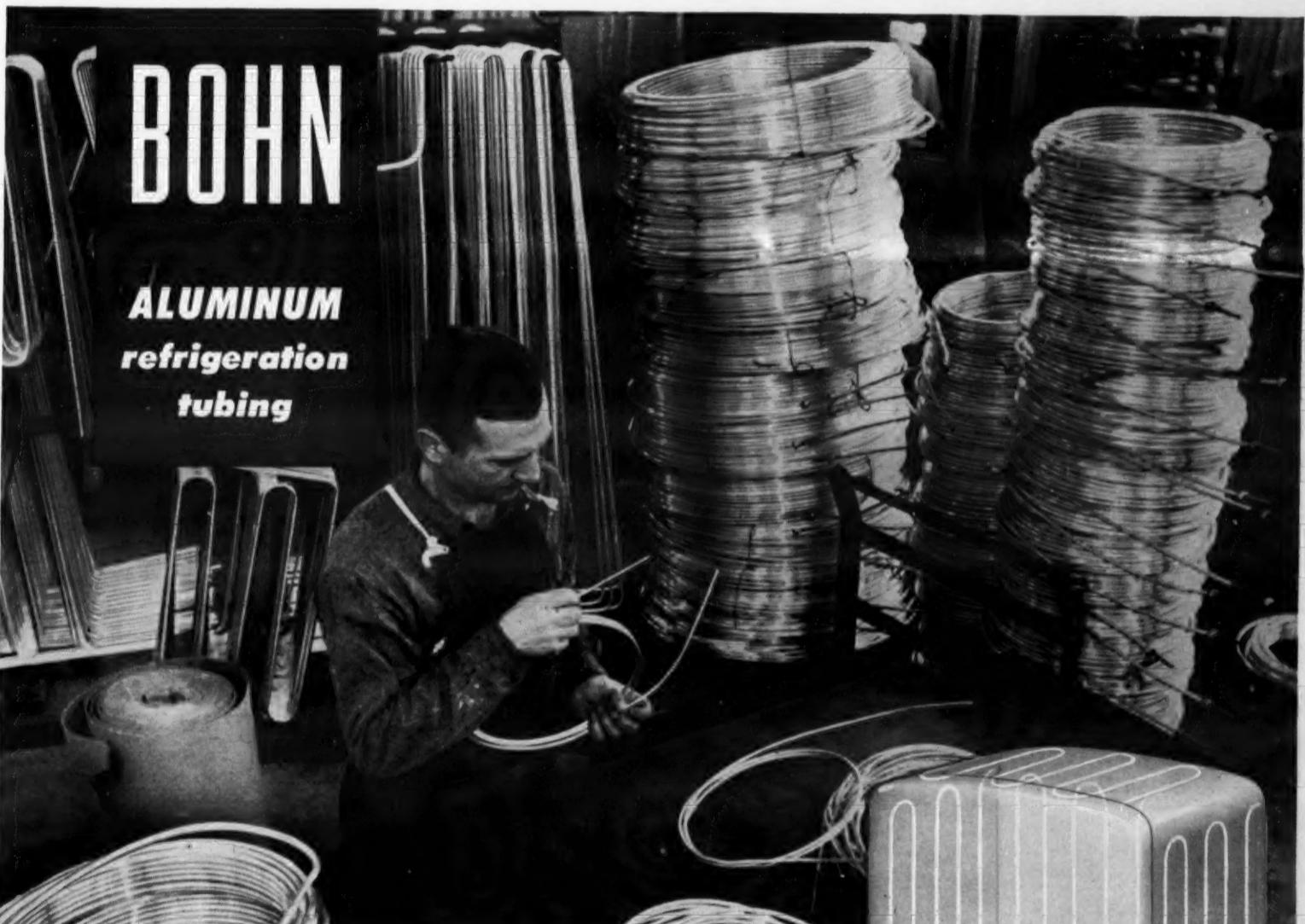
"A Case of Cool Judgment"



Stainless Steel DRINKMASTER MIX MODEL

#4D60 Holds 60 Gals. Mixt.
#4D80 Holds 80 Gals. Mixt.
Upper Part for Food Storage.

United Frigulator Engrs.
Menominee, Mich.

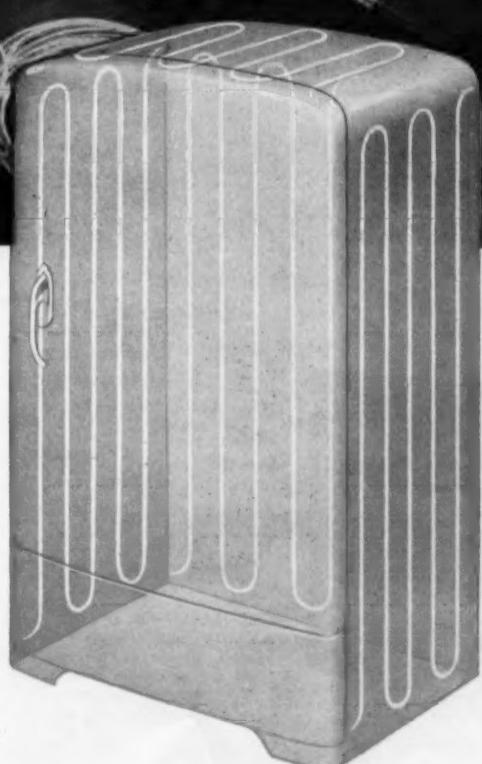


More economical • Easier to shape and bend

Bohn aluminum refrigeration tubing helps reduce costs because it is easier to form. It also works more efficiently in the finished product because aluminum is an excellent heat conductor. Bohn aluminum refrigeration tubing is available in bulk coils, specified patterns or cut to required lengths with dependable, flash-butt welded copper leads.

EVAPORATORS • FREEZER PLATES • TUBING • COILS & CONDENSERS

BOHN ALUMINUM AND BRASS CORPORATION
1400 LAFAYETTE BUILDING
DETROIT 26, MICHIGAN
Sales Offices: BOSTON • BUFFALO • CHICAGO • CLEVELAND • DAYTON
DETROIT • INDIANAPOLIS • LOS ANGELES • MILWAUKEE • MINNEAPOLIS
NEW YORK • PHILADELPHIA • ST. LOUIS



SHELL CONDENSER APPLICATION of Bohn aluminum refrigeration tubing for either chest or upright freezers.

**AIR CONDITIONING &
REFRIGERATION
News**

Trade Mark registered U. S. Patent Office; Est. 1926.

F. M. COCKRELL, Founder

The Conscience of the Industry'

Published Every Monday by
BUSINESS NEWS PUBLISHING CO.
450 W. Fort St., Detroit 26, Mich.
Telephone Woodward 2-0924.
New York Office: 521 Fifth Ave.
Telephone Murray Hill 7-7158.
Chicago office: 134 S. LaSalle St.,
Telephone Franklin 2-8093.

Subscription Rates: U. S. and Possessions
and Canada: \$6.00 per year; 2 years, \$9.00;
3 years, \$12.00. All other countries: \$10 per
year. Single copy price, 40 cents. Ten or
more copies, 30 cents each; 50 or more copies,
20 cents each. Please send remittance with
order.

GEORGE F. TAUBENECK
Editor and Publisher

PHIL B. REDEKER, Editorial Director

C. DALE MERICLE, Associate Editor

JOHN SWEET, Assistant Editor
HUGH MAHAR, Assistant Editor
GEORGE HANNING, Assistant Editor
MARGARET DEAN, Assistant Editor
Editorial Assistants: PAT O'CONNOR,
JOY SLAUGHTER, and
PAULINE A. MCNEANEY.

E. L. HENDERSON, General Manager
ROBERT M. PRICE, Adv. Mgr.
ALLEN SCHILDKRAMMER, Western
Advertising Manager
ALICE M. BARROW, Advertising Secy.
WALTER J. SCHULER, Production Mgr.
LLOYD SILER, Circulation Manager
CECILIA COSTYN, Subscription Manager

Member, Audit Bureau of Circulations.
Member, Associated Business Publications.
Copyright 1954, Business News Publishing Co.

VOL. 72, NO. 2, SERIAL No. 1,312

MAY 10, 1954

What's In A Name?

EARLIER this year we received a communication from the National Association of Electrical Distributors which said, in part:

"J. A. Walsh of Houston, Texas, Chairman of the Air Conditioning Committee of the National Association of Electrical Distributors, reports that a very interesting and constructive discussion took place at a committee meeting, which emphasized how obsolete today the term 'room coolers' has become. The committee considers the term 'room coolers' most inadequate to describe this modern appliance."

"Committee members and manufacturers alike contend that a room air conditioning unit does considerably more than merely cool a room. Modern air conditioning units truly condition the air in the rooms in which they are installed. They provide air cleanliness. They heat as well as cool. They remove pollen and dust, thus tending to promote relief from asthma, hay fever, and similar irritations. They muffle outside disturbing traffic roars. They keep a room virtually noise free."

"The committee advocated discontinuance of the now outmoded term 'room coolers' in favor of the much more descriptive one—'room air conditioners.' On behalf of the committee, Walsh declared that the cooperation of the daily and trade press would be highly important in bringing about this change in terminology."

All right, we're ready to do our part. But, as one of our assistant editors noted on the release, "wonder if they've ever tried putting 'room air conditioners' into a headline."

There is something to be said for a move to make the public conscious of the term "room air conditioner." (We also like that sub-title, "the 6-way appliance," which one manufacturer has tacked onto the product).

Some critics of present merchandising tactics contend that

They'll Do It Every Time . . . Jimmy Hatlo



its sales potential never will be realized until all the functions of this product are sold properly to the public.

Although promoting a memorable name for this product isn't the only way in which progress can be made along these lines, it is a step in the right direction.

So, "room air conditioners" it will be henceforth—as far as the air conditioning industry's only newspaper is concerned—unless, of course, we're desperate for that short headline!



The Schilling Chilling Co., Inc.
Indianapolis, Ind.

Editor:

Please send us an index for your AIR CONDITIONING & REFRIGERATION NEWS, 1950-1954 inclusive.

We have quite a few stacks of your papers which we would like to refer to often for their interesting and useful information, but find it most difficult without an index.

JOHN J. MAXWELL

* * *

Dear Mr. Maxwell:

The only printed index of AIR CONDITIONING & REFRIGERATION NEWS that is available is the index of principal articles that have been published in a calendar year, which is published each December in one of the last issues of the year.

We are forwarding you copies of this index for the past four years.

Watch for the 1954 index in one of the late December issues.

EDITOR

505 Revere Road
West Palm Beach, Fla.

Editor:

I have been a subscriber to the News since its beginning and I can't help but enjoy and look forward to its every issue.

You have been stressing the need for salesmen. I want to tell you what happened to me in the past two months.

First I planned on a new car. I went to almost every dealer in town, got prices, looked and even had one salesman take me for a ride. They all took my name, address, and phone number. I am still driving my same '50 Mercury and not one dealer has even called or come by to see whether I was still interested or had bought.

My wife wants a TV. I have taken my time, called on all of the dealers, looked, and got prices. They all took my name, address, and phone number. Not one has ever followed it up and I still have not brought—and I have the cash in the bank to pay for anything I want to buy.

Last week I thought about a new refrigerator. Mine is 22 years old. I repeated the same thing. I looked, got prices, and gave them my name and address. Not one has ever called and the old refrigerator is still knocking it off.

Maybe they don't need the business. I don't know, but with a little effort I would have bought all three.

Bless you for the good work you have done for the industry.

J. B. VINTERS

Chantilly, Va.

Your editorial in the March 29 issue, "No Rust for the Wary," could well be complemented by one entitled "No Worry for the Mother."

I refer to a new magnetic refrigerator door-holding device for refrigerators, invented by my husband, Silas A. Morehouse.

The key to the idea is that part of the mechanism is mounted on the center refrigerator shelf; and with that shelf removed, the lock becomes inoperative and the door will not stay closed. It is assumed that for a child to fit inside, that center shelf would have to be taken out. Voila! no closing, no suffocation!

If a child were small enough and clever enough to somehow evade that center shelf, he could still push the door open from inside.

There's a very simple model for used refrigerators, and a deluxe model for the new ones. All that is now needed is for manufacturers and dealers to employ their past-demonstrated initiative and cooperation in order to make refrigerators safe from danger.

HELEN H. MOREHOUSE

Guy W. Gentry & Associates
Oklahoma City

Editor:

As a former newspaperman and sportswriter, I enjoy your column in the AIR CONDITIONING & REFRIGERATION NEWS very much. I left the sports-writing field about a year ago to join this firm, which bears the name of my father-in-law, himself quite an "oldtimer" in the air conditioning business in this part of the country.

I was a member of the sports staff of the *Daily Oklahoman* here for something like eight years and later was sports editor and columnist of the Enid, Okla., *News and Eagle*. It was at the *Oklahoman* where I broke in under the very able tutelage of Hal Middleworth, now a scribe in your city with the *Detroit Free Press*.

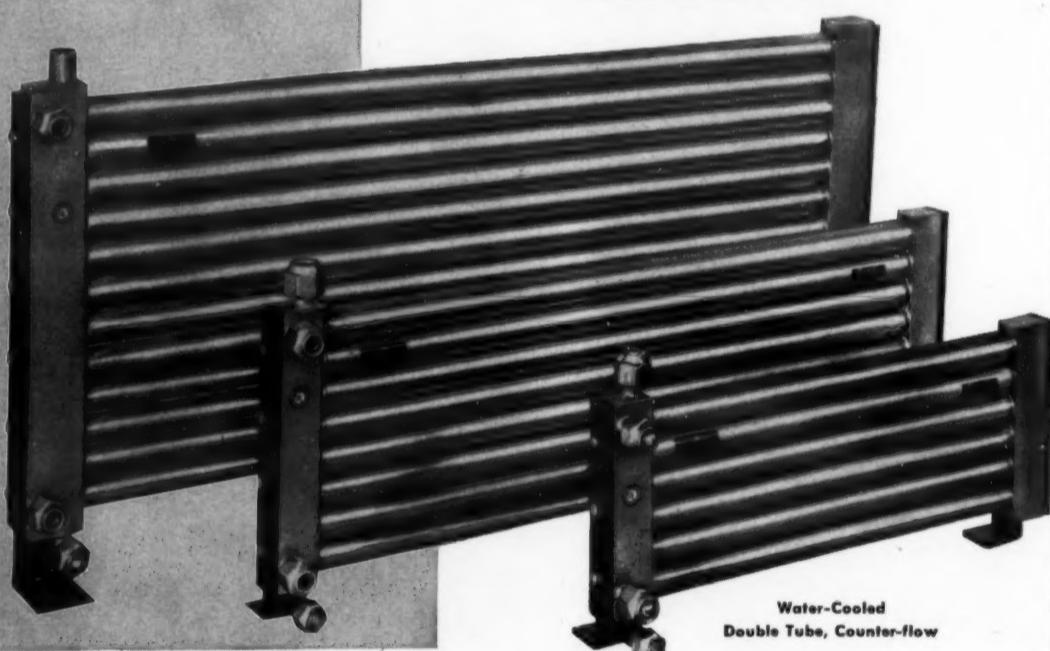
The absence of news from this area in your publication has been quite noticeable to those of us close to the industry and I presume it is because no one here sends releases to you.

The refrigeration and service-men call it the "bible of the industry" and I have been prone to compare it with the tremendous task and effort put forth by the Spink organization in the field of baseball with the *Sporting News*.

PETE RICE

No. 1 Requirement—in any size unit

an CLEANABLE CONDENSER



1/2 to
25-Ton
Capacity

CLEANABLE—in all size capacities.
All with seamless copper tubes, brass
headers machined and brazed. Water
tubes are accessible from either end.

Halstead & Mitchell

Wholesalers in Principal Cities—Write for descriptive literature
OFFICES: BESSEMER BUILDING • PITTSBURGH 22, PA.



HEATING, air conditioning unit is mounted atop cab of this U. S. Army map reproduction truck. System provides comfort cooling as well as control of temperatures for photographic processes.



INTERIOR view of van shows ceiling duct and one of three diffusers which handles air for the truck. An exhaust outlet provides for a change of air twice each minute.

Army Map 'Train' Features Unique Application of Heating, Air Conditioning

ST. LOUIS—An unusual application of air conditioning and heating facilities has made it possible for a map-reproduction "train" of the U. S. Army to function efficiently under varied climatic conditions.

Because the nature of warfare has changed radically, with swift movement over large areas, accurate map development and reproduction has become of extreme importance, according to Army staff chiefs.

Accordingly, the military has developed a six-unit train of heavy, enclosed vans on government-issue 6 x 6 chassis, which, as an operating unit, can transform aerial photographs into montage maps within a few hours.

The units consist of a headquarters and laboratory vehicle; the camera van for enlarging, photographing, and montage assembly; the "plate grainer" unit in which metal plates are mechanically etched for printing reproduction maps; the "press truck" where the actual printing is carried out; the map layout van in which aerial photographs are pasted up to provide precise mosaic maps; and the plate-process truck in which refinements are developed.

A major drawback to the use of heavy 18-gauge steel van bodies has been climatic conditions. Also, each of the units is designed to be flown where needed, in heavy transport aircraft, which likewise poses temperature problems.

In order to meet the personnel-efficiency problem, McCabe-Powers Auto Body Co., St. Louis, turned to an unusual combination of heating and air conditioning for the camera unit, largest of the vans.

The camera truck has a 16-ft. by 10-ft. tightly-insulated van body and needs precise temperature control to protect films, chemicals, and other sensitive materials. This was provided by the installation of a built-up package cooling and heating unit, mounted atop the truck cab and protected from damage by a heavy "cage" of steel tubing.

Powered by a 3-hp. motor and utilizing General Electric components, the package air conditioning unit is more than adequate to maintain a temperature of 80° at 50% relative humidity when the outside temperature is anywhere from -6° to 125° F. Thoroughly tested in the cold chamber at Fort Belvoir, Va., it provided sufficient heat when the exterior temperature was as low as -65°.

In practice, heat for the trailer interior is piped from ducts at the gasoline-heat generator into the covered-over double rail track on which the enlarging camera moves back and forth. Merely covering over the space between the rails provided duct for heat distribution.

For air conditioning, a damper in the system switches the flow

of air through a ceiling duct. There are three outlets in the duct, which extends the length of the van interior, plus an exhaust outlet. Air in the van is changed at the rate of twice a minute.

Power for cooling and heating may be obtained from the engine or standby power unit.

Memorial Hall In Dayton Now Air Conditioned

DAYTON — Air conditioning leads the way as \$500,000 renovation program is scheduled for Memorial Hall, Dayton.

Plans are now being developed to completely modernize the 44 year old auditorium. County voters will in November be asked to approve a bond issue to cover the cost of contemplated changes.

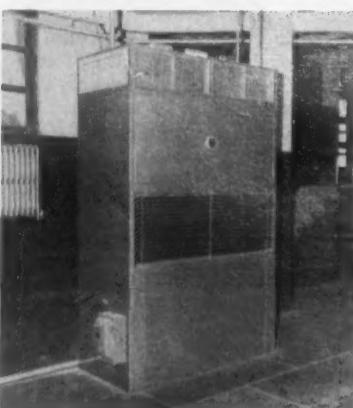
Completion of changes will enable community residents to boast once again of having "one of the finest auditoriums in the country." Principally, the hall will be in a position to recapture the plays and larger road shows that more and more have been bypassing Dayton for the newer and air conditioned auditoriums located in neighboring cities.

Lack of air conditioning has practically meant cessation of operation for Memorial Hall during the summer months. Year-round operation is now possible. This fact, along with improved facilities, will mean increased entertainment opportunities, complete audience comfort, and greater revenue.

First to materialize of the scheduled improvements was the installation of a complete new air conditioning system. Four 15-ton, four



AIR CONDITIONING



AIR CONDITIONING is the first step in the renovation of Dayton's Memorial Hall. At the left is one of four 8-ton Airtemp units that cool the basement. Three-ton packaged conditioner on the right has been installed on the stage to provide comfort for performers and stagehands.

11-ton, and two 3-ton Chrysler Airtemp packaged units were installed last Fall.

The proposed face lifting will bring the auditorium's facilities up to the modern concepts of comfort-while-being-entertained that both audiences and performers demand today. With air conditioning set-

ting the pace, other changes along with the over-all redecorating will be: stage enlargement, increased seating capacity featuring cushioned seats, elevation of the hall's main floor to provide better viewability, blind spot elimination, and the installation of a redesigned lighting system.

For Step No. 3 in perfecting air conditioners . . .

L·O·F FIBER·GLASS for Noise Control

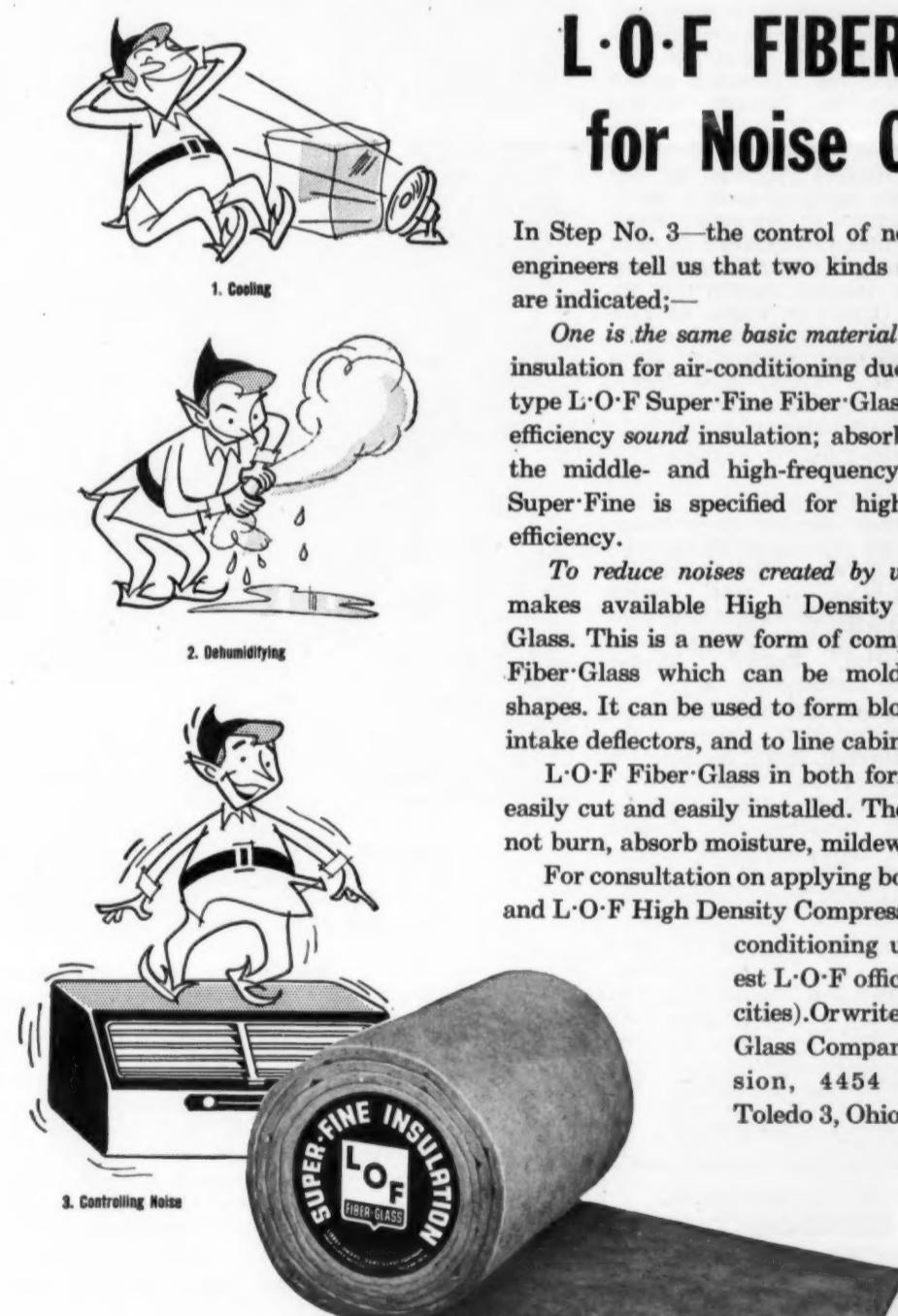
In Step No. 3—the control of noise—air-conditioning engineers tell us that two kinds of L·O·F Fiber·Glass are indicated:

One is the same basic material now used as thermal insulation for air-conditioning ducts—flexible, blanket-type L·O·F Super·Fine Fiber·Glass. This provides high-efficiency sound insulation; absorbs airborne sounds in the middle- and high-frequency ranges. Vinyl-faced Super·Fine is specified for highest sound-absorbing efficiency.

To reduce noises created by vibration, L·O·F now makes available High Density Compressed Fiber·Glass. This is a new form of compressed, high density Fiber·Glass which can be molded, if desired, into shapes. It can be used to form blower housings and air intake deflectors, and to line cabinets.

L·O·F Fiber·Glass in both forms is easily handled, easily cut and easily installed. The fine glass fibers will not burn, absorb moisture, mildew or rot.

For consultation on applying both L·O·F Super·Fine and L·O·F High Density Compressed Fiber·Glass to air conditioning units, call your nearest L·O·F office (offices in 26 major cities). Or write: Libbey·Owens·Ford Glass Company, Fiber·Glass Division, 4454 Wayne Building, Toledo 3, Ohio.



FIBER · GLASS

LIBBEY·OWENS·FORD GLASS COMPANY
FIBER·GLASS DIVISION

How Successful Dealers Sell

Most Find Room Coolers a Hot Weather Item, Newspaper Ads Bring Most Sales, Few Use 'Special' Salesmen

CHICAGO—A survey that revealed some of the methods used by leading appliance dealers in merchandising room air conditioners was conducted recently by the National Appliance and Radio-TV Dealers Association.

Among other things, the survey showed that up to now, at least, the room air conditioner has been strictly a "hot weather" appliance for the dealers reporting in the survey. Only 4.3% of those reporting were able to describe year-round room conditioner sales as "good." Sixty-one percent made no sales at all except during hot weather, and 34.7% reported poor sales in the off season.

Asked what technique was most successful in building customer interest in room coolers, 24.6% of the reporting dealers said they used newspaper advertising, both display and classified.

Direct mail was employed by 18.3%, salesmen's contacts by 16.2%, use the user by 8.5%, store display by 6%, free home trial by 6%, store demonstrations by 4.8%, radio advertising by 4.8%, service contacts by 2.4%, and miscellaneous means (through distributor, movie, TV, or radio advertising) by 4.8%.

THE WIRING NO PROBLEM

Wiring problems were no special handicap in completing room cooler sales for 47.8% of the dealers. For 30.4%, it was a distinct handicap, while 23.2% had wiring difficulties "sometimes."

An even half of the dealers said they explained additional wiring requirements to customers in detail. Twenty percent relied on the utility to sell the wiring, while 10% said they included the cost of installation and wiring in the unit price. Others said they worked through their service departments, local electrical inspectors, or followed whatever methods seemed most suited to the particular situation as it occurred.

More than 80% of the dealers let their entire sales force work equally on room cooler prospects. Only 13% used specially trained men and a mere 6% provided special training for their men.

FOLLOW-UP SLIGHTED

Asked how long after the first unit was installed did they wait before following up for additional room cooler sales, 17.1% said within 10 days, 18.6% within one or two weeks, 12.9% said in three or four weeks; 1.4% said within six months, 9.8% said within a year, and 5.8% said as soon as possible. But 34.4% of the dealers made no follow-up at all.

In determining what size air conditioner to sell the customer, 55.9% of the dealers said they took actual measurements of the room in which the air conditioner was to be used. Manufacturer-supplied charts were relied upon by 33.3%, while 6.6% combined both these methods. Some 4.2% just used a "rule of thumb."

A total of 48.1% of dealers

found that price ruled the customer's decision to buy, while 34.7% indicated that their customers were primarily interested in getting the right size unit for the room. Many of the former group commented, however, that they would not sell unit that was obviously the wrong size for the room. The remainder were not certain which factor was more important to the customer.

USE OWN BANK TO FINANCE

To finance room cooler sales, 41.5% of dealers used their own bank facilities, 12.6% used manufacturer arranged financing, 12.6% used other financial institutions, and 11.2% carried their own paper. A combination of the dealer's own bank and other financial institutions was employed by 13.9% of the dealers.

More than 70% of the dealers required a 10% down payment. The others asked 15 to 25% down. Nearly 92% of the dealers allowed their customers between 12 and 24 months to pay the balance.

Appoint Distributors of Perfection Room Units

CLEVELAND—Perfection Stove Co., which recently entered the room air conditioner field, is announcing its newly-appointed distributors of both residential and commercial room air conditioners.

The commercial division has named Ohio Air Conditioning & Heating Co., Cleveland, and Perfect Aire, Inc., Cincinnati, as distributors. The Furnace Div. has as distributor Manufacturers Supply Co. of Youngstown, Ohio.

Distributors appointed by Perfection's appliance division are A. C. Rochat Co., Knoxville, Tenn.; J. E. Gram Refrigeration Co., East St. Louis, Ill.; Youngblood Plumbing & Heating Supply Co., Paducah, Ky.; Fort Wayne Air Conditioning Co., Fort Wayne, Ind.; Fuelgas Corp., Chester, N. Y.; H. M. Tower Corp., New Haven, Conn.; Allied Air Conditioning Appliance, Wilmington, Del.

Adams-Kane Co., Baltimore; Arrow Utilities, Inc., Brooklyn; Baker Electric Co., Montgomery, Ala.; Bloomfield Electric Shop, Bloomfield, Ind.; Bradshaw Auto Supply Co., Dyersburg, Tenn.; Comfort Engineering Co., Inc., Tupelo, Miss.; Dennis Washer & Service Co., Wichita, Kan.; Frontier Refrigeration, Buffalo; Glendale Farms, Independence, Mo.

Graybar Electric Co., Long Island City, N. Y.; Hardware Supply, Mitchell, S. D.; Husband Refrigeration Co., Pittsburgh; Edward Keith, Inc., Kansas City, Mo.; S. M. Lawrence Co., Jackson, Tenn.; Ohio Air Conditioning & Heating, Cleveland; Perfect-Aire, Inc., Lebanon, Ohio; Porter-Walker Hardware Co., Columbia, Tenn.

Protect-U-Heating & Air Conditioning Co., Memphis, Tenn.; Purdom's, Inc., Murray, Ky.; Rolla Hardware & Electric Co., Rolla, Mo.; Saul Rutheiser Co., New York; Turner Electric Co., Chattanooga, Tenn.; Manufacturers Supply Co., Youngstown, Ohio; and Milo H. Walz, Jefferson City, Mo.

AIR CONDITIONING EXTENSION CORDS WIRE & CONNECTORS

LOW-PRICED

CATALOG ON REQUEST
BECKLEY ELECTRIC CO., INC.
468 Grand Ave.
Brooklyn 22, N. Y.
SALES MEN: MOST TERRITORIES OPEN

NEW FLO INDICATOR FLAP SHOWS ALL FLOW CHANGES
Analyze flow, function of expansion valve, by means of E-Z to SEE sensitive flap, instantly responsive to variations in flow. Positively leak-proof — hundreds of thousands in use.
Available at Wholesalers everywhere

REMCO
INCORPORATED
ZELIENOPLE, PA.

BBB Asks Clarification

If You Want a 'Vim' Ask for a 'King'

NEW YORK CITY—At the request of the Better Business Bureau, Vim Electric Co. has agreed to clarify its air conditioner advertising in the future.

In a recent newspaper advertisement, Vim advertised a $\frac{3}{4}$ -ton "Vim" air conditioner at a price of \$179.95.

Eight other brand name units were also listed in the advertisement in such a way, according to the BBB, that shoppers could imply that the \$179.95 price applied to these brands also.

Shoppers were further confused when visiting a Vim store to find no "Vim" air conditioners on display.

Salesmen explained that the "King" air conditioner was the one referred to in the advertisement and was made specially for Vim.



A NEW ROOM AIR CONDITIONER DISPLAY to serve as a separate air conditioning department for dealers has been introduced by Amana Refrigeration, Inc. The 6-ft. display stand is built around any one of the three Amana models.

The 7-color display has a special three-part construction, making it simple to erect. Entire display comes packed in one carton. Price to dealers is \$15.

Announcing Another Important New Development...

ALUMINUM Room Cooler EVAPORATORS and CONDENSERS by REYNOLDS



Here's Why Aluminum Is First Choice For Room Cooler Evaporators and Condensers:

All-aluminum evaporators and condensers assure rapid heat transfer—aluminum fins and tubes facilitate fast, economical cooling and efficient operation. All-aluminum evaporators and condensers can't rust, thus there's no danger of rust from these parts causing unsightly stains below the outside of the window.

Remember, also, aluminum's light weight aids in portability and ease of installation. Aluminum is strong—gives years of dependable service. Aluminum is economical, too. These and other aluminum advantages add up to serviceability, efficiency and economy unmatched by any other material...protect the quality of your products.

Here's Why Reynolds Aluminum Fabricating Service Is First Choice For Producing Room Cooler Evaporators and Condensers:

Reynolds wide experience in refrigeration as one of the nation's leading producers of parts for this industry has pointed up the advantages in room cooler evaporators and condensers made entirely of aluminum. This experience—plus Reynolds skill, mass-production facilities and quality control from mine to finished product—assures production of all-aluminum evaporators and condensers to quality standards exceeding

industry requirements.

Remember—the tremendous room cooler market is just now opening up. One good way to get your share of this important business is to be sure your units offer top performance and top quality. All-aluminum evaporators and condensers from Reynolds Aluminum Fabricating Service can play an important part in your performance and quality story.

Your Dollars Are Still Worth 100 Cents in Aluminum!

REYNOLDS ALUMINUM

BLANKING • EMBOSsing • STAMPING • DRAWING • RIVETING • FORMING

4 Vornado Service Representatives Aid Train Dealers' Men

WICHITA, Kan.—Four factory trained graduate engineers have been placed in the field to help distributors and dealers of Vornado air conditioners give customers "fast, effective help whenever and wherever they need it," Russ Rising, general sales manager of the O. A. Sutton Corp. here, announced recently.

Rising said that Sutton's service program is being headed by Ray Thompson, director of service. The four field engineers under his supervision are Bob Haas, R. E. Bogardus, R. Garrison, and J. B. Jones.

They began conducting service schools in key cities throughout the country on April 1 for distributor and dealer service personnel. After the training schools are completed, they will work with Vornado dealers on their service problems.

"Our men," Thompson said, "will spend all their time in the field training servicemen at dealer level and making consumer calls when necessary to handle service problems."

The four field service representatives are also working with distributors to help them establish proper service replacement stocks

for adequate field service with minimum time delay.

"We have very carefully worked out a stock minimum and stock control system for distributors that will let them keep balanced replacement parts for servicing without carrying high inventories," Thompson declared.

He explained that close cooperation between factory production and the service department had enabled Vornado's service department to have adequate stocks of replacement parts current with new models as they come off production lines. The department carries a complete stock of replacement parts. It has been organized to give immediate attention to emergency orders that cannot be handled in the field.

"We plan to keep a monthly check on distributor replacement stocks, so he can keep his inventory at a minimum and still be in a position to properly handle all service demands," he said.

Air Condition 50-Room Motel

DAYTON—Air conditioning will be installed in all 50 rooms of a new motel to be constructed on State Route 4 at an estimated cost of \$250,000, it was announced by Jawson Jaffe, the owner.

The motel will be known as the Sheridan and each of the rooms will measure 12½ by 20 ft. The Loraine Construction Co. of Dayton is the contractor.

JAMESTOWN, N. Y.—A new air conditioning system will be installed in the G. C. Murphy store here. Girls' lounge also will be air conditioned.

Owens-Corning Offers Promotion Material on Its Air Cooling Filters

TOLEDO—Owens-Corning Fiberglas Corp. has announced the availability of promotional material designed to acquaint air conditioning owners with the need for periodic replacement of filters.

In making the announcement, the company pointed out that many new owners of air conditioning systems do not know that filters are contained in the units.

The promotional material is available without charge to dealers through their distributors, Owens-Corning's branch offices, and the company's general offices.

Dealers are advised to request Brochure No. D54-6 which contains a form to order promotional helps. These include window-counter displays, a four-page filter folder, post cards, a filter reminder sticker, a catalog of filters used in most air conditioning systems, and a sample reminder service kit.

The service kit consists of reminder post cards, filter record cards, letters, and a bulletin on the plan.

Something for the Girls

JAMESTOWN, N. Y.—A new air conditioning system will be installed in the G. C. Murphy store here. Girls' lounge also will be air conditioned.



Westinghouse Names 6 Regional Managers for Refrigeration Specialties

SPRINGFIELD, Mass.—Appointments of six regional managers were announced here recently by H. F. Hildreth, manager of refrigeration specialties, Westinghouse Electric Appliance Div.

Those appointed are: John P. Moffitt as manager of the eastern region; Maurice Rouede, southeastern region; Henry C. Bourns, central region; Byrnard E. Egan, southwestern region; Joseph R. Lukan, northwestern region; and G. G. "Chuck" Winston, Pacific Coast region.

Their headquarters will be at New York, Atlanta, Cleveland, Chicago, St. Louis, and San Francisco, respectively.

Each manager will be responsible for coordinating and planning the sales, merchandising, and distribution of Westinghouse refrigeration specialties products within his region. Refrigeration specialties include room air conditioners, water coolers, dehumidifiers, and beverage coolers.

Moffitt comes to Westinghouse from the Remington Corp., where he was eastern regional sales manager for the air conditioning division. He formerly was vice president in charge of appliance and air conditioning sales and service for Downes-Smith Co., Stamford, Conn.

Rouede joined Westinghouse as a major appliance factory representative in New Orleans in 1950. Prior to that time he had been associated in various phases of the appliance business in New Orleans for a number of years.

Bourns was a veteran of many years in the appliance business when he joined Westinghouse in 1944 at Mansfield, Ohio. Prior to his recent appointment he was refrigeration specialties factory representative for the central district, formerly headquartered in Mansfield, and recently renamed the

central region with headquarters in Cleveland.

Egan operated his own business from 1932 until 1941, when he joined Westinghouse as a beverage cooler specialist. After serving three years in the Army, he returned in 1946, and has since served as southwestern district factory representative for major appliances.

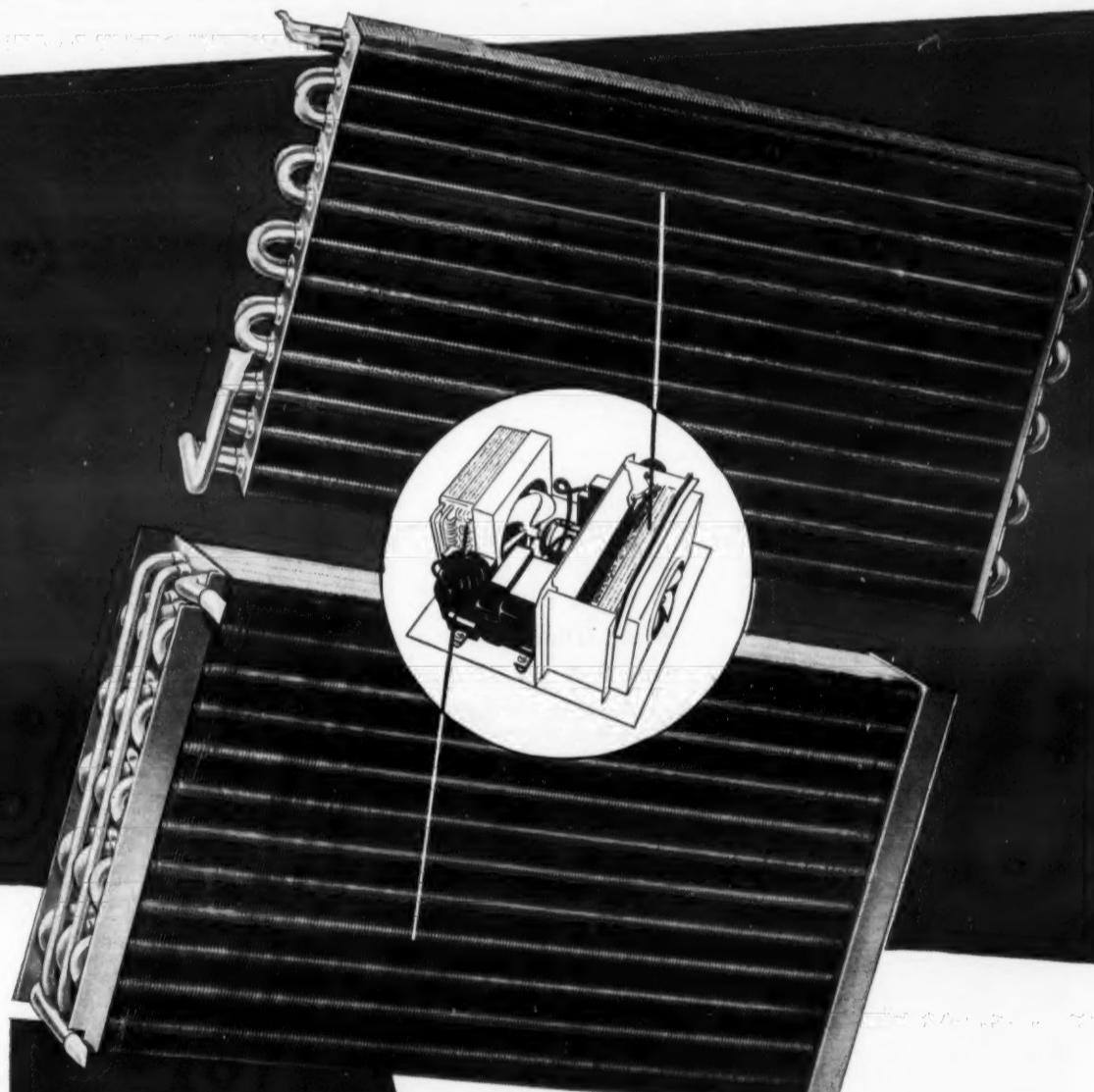
Lukan has most recently served as district consumer products manager for the Westinghouse Electric Supply Co. in Milwaukee. Previous to that, he held several posts in the Westinghouse appliance organization, having joined the company on the graduate student course in 1922.

Winston joined Westinghouse in 1942 after many years in sales work in the midwest. He was branch appliance manager in Omaha for the Westinghouse Electric Supply Co. until 1947, and then became a factory representative there for the Westinghouse Appliance Div. In 1953 he transferred to Los Angeles in the same capacity, and at the time of his recent appointment, was factory representative.

Going To Stay Awhile

MEMPHIS, Tenn.—Stephens Brothers, air conditioning engineers, have taken a five-year lease on a one-story brick building at 667 Union.

Officials said the 12,000-sq. ft. building, leased from Binswanger & Co., has railroad trackage at the rear. It is insulated, sprinkler protected, and air conditioned. There is adjacent parking space.



ATTENTION ROOM COOLER MANUFACTURERS!

During the past year, Reynolds Aluminum Fabricating Service engaged in important development work with industry people, and as a result of this work, is now toolled up for production of all-aluminum room cooler evaporators and condensers. We will be glad to work with you in designing aluminum parts for your present or future models. For full details, contact the Reynolds office listed under "Aluminum" in your classified telephone directory, or write Reynolds Aluminum Fabricating Service, 2054 South Ninth Street, Louisville 1, Kentucky.

Write for your free copy of the new 15-page Appliance Parts brochure

See "Mr. Peepers" Sundays on NBC-TV. Consult local listings for time and station.



FABRICATING SERVICE
ROLL SHAPING • TUBE BENDING • WELDING • BRAZING • FINISHING

NEW PROFITS FOR YOU!

With this
fast-selling
White-Rodgers
PLUG-IN
THERMOSTAT for Room Air-Conditioners



Wherever you sell, have sold or service a room conditioner, there's a sale waiting for you. Easy to sell, because this White-Rodgers Plug-In Thermostat increases comfort, saves power and reduces running of room air-conditioners. No installation problem—just mount the thermostat and plug in like a lamp. Control carries 1 hp. rating, can be used with practically all 115-volt room air-conditioners.



FREE Display Sells for You

Your initial order of ten controls brings this dramatic display without charge. On your counter it will act as a silent salesman, bringing extra profits.

Call Your Wholesaler Now!

WHITE-RODGERS
Controls
FOR REFRIGERATION
HEATING AND
AIR CONDITIONING

Write us for name
of nearest wholesaler
with stock on hand!

1209 Cass Ave.
St. Louis 6, Mo.

What's New

When requesting further information on new products, please use "Information Center" form.

Plug-In Test Chamber Has -100° F. to 250° F. Range



KEY NO. D-520

HOLLAND, Mich.—Test chamber that can produce temperatures from -100° F. to 250° F. and needs merely to be plugged into a 115-volt outlet has been introduced by Conrad, Inc., here, according to Charles Conrad, president.

Designated as Model FP, the new temperature testing chamber is narrow enough to go through a 30-in. doorway and is mounted on ball bearing, fiber wheel casters.

Use of air-cooled, semi-hermetic condensing units eliminates the

need for water connections, he explained. A cascade system employing "Freon-13" and "Freon-22" can reduce temperature from 70° F. to -100° F. in approximately 60 minutes, it is claimed. Temperature can be raised from 70° F. to 250° F. in 30 minutes.

Test chamber space is either 13 x 16 x 16 in. or 20 x 20 x 18 in. Entire unit occupies a floor space of 29 by 40 in.

This unit is designed for operation at any temperature in the range, and controlled automatically within 2° F. of set point. The thermostat controller is a visual indicating type which shows both the set point, and the temperature.

Air circulation in the test space is from a motor driven propeller, and the motor is mounted outside the chamber, with direct-connecting shaft. Interior lighting is provided, as well as view window.

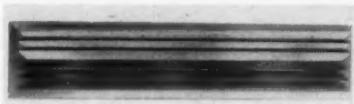
The cooling coils are all located behind an air baffle, and clear of the test space. Extended fin surface coils are utilized for efficient performance and close control of conditions.

Electrical equipment is grouped

in an accessible compartment, and switches are grouped on the hinged door, with engraved name plate.

Heavy duty overlap design doors are of the non-freeze type, and have special gasketing materials.

The cabinet is all welded, and die formed. No wood is used in the design, and vapor-proof insulating materials are incorporated in the unit.



Continuous Diffusers Added to 'Agitair' Line

KEY NO. D-521

NEW YORK CITY—Air Devices, Inc. has announced the addition of continuous air outlets to its line of "Agitair" air diffusers.

The new units incorporate patented diffusing vanes and "assure unvaried distribution of noiseless, draftless conditioned air over a predetermined area," according to the company.

Available in unlimited run dimensions for either sidewall or ceiling installation, the units are made in two distinct types: "RC" with separate mounting frame and interchangeable diffusing core, and "R" with integral diffusing core.

Both types conform to troffer or fluorescent lighting and other architectural considerations.

Bevco Increases Production of Water-Beverage Coolers



KEY NO. D-522

ST. LOUIS—Increased production of the "Bevco B-Line" electric beverage cooler with cold drinking water combination has been announced by Sam C. Dorman, president of the company.

He reports a demand for the dry beverage cooler with drinking water attachment from offices,

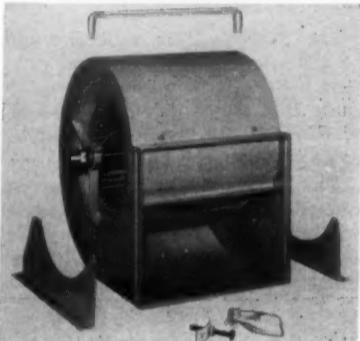
where it can provide refrigerated dry storage for both food and bottled goods and a continuous supply of cold drinking water. The case is also sold to restaurants and other food serving establishments.

The B-Line cases are made in 47½, 58½, and 68½-in. lengths and feature unobstructed interiors. The refrigeration coil is sweated to the outside of the interior tank. When used as a wet tank, ice is automatically formed and released to provide long hold-over periods and reserve capacity for peak loads, Dorman said.

When the drinking water attachment—an optional accessory—is provided, it can be furnished with a variety of faucet types. It includes 50 ft. of copper water coil for chilling the drinking water.

Heavy gauge wire metal dividers are another optional feature.

Lau Simplified Blower Assembly Meets Most Needs



KEY NO. D-523

DAYTON—A new simplified blower assembly package that reduces inventory and speeds production for manufacturers of warm air heating units and air conditioners has been introduced by Lau Blower Co. here.

Called Series "A" "Econo-Pak" blower, the new package is being produced in two blower sizes with two wheel widths in each size.

With the new package, about 95% of the blower requirements in the domestic heating and resi-

dential air conditioning field are met, the company claims.

Each package consists of a Series "A" assembled blower, motor mount, housing supports, and hardware. Also included in the price are 2 pulleys which are shipped separately in bulk.

The prime function of the package is to provide five different positions of air discharge and 10 variations in motor mounting with the single unit. With the Lau Econo-Pak, it is estimated that inventory of blower units may be cut by 50% while other savings will amount to 5-7%.

Five different standard pulley combinations are available with the package, providing a speed range from 385 r.p.m. to 888 r.p.m. As an example of the combinations available, one A-10E blower can deliver from 800 to 1,800 c.f.m. under ½-in. static pressure.

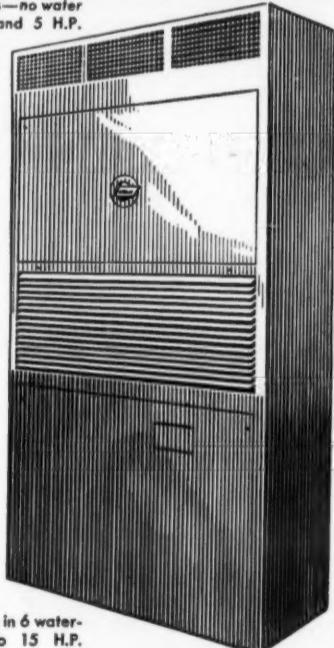
In announcing the new package, the company pointed out that the standardization of many different blower requirements is accomplished with the single unit.

1 of the many reasons why you will find it pays to sell Chrysler Airtemp

Continuous and extensive advertising of ALL Chrysler Airtemp product lines makes your selling job easier!



"Packaged" Air-Cooled Air Conditioners—no water needed, no plumbing required. 2, 3 and 5 H.P.



"Packaged" Air Conditioners in 6 water-cooled models, from 2 to 15 H.P.



Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.

Guaranteed by Good Housekeeping

A copy of the seal is available at the end of this page.



Service & Supplies

Flushing Out New Pipes Before Installing Water Regulating Valve Can Reduce Trouble

DETROIT—Much of the service trouble with water regulating valves could be eliminated before it starts, if the serviceman would take the trouble to thoroughly flush out new pipes before he installs the valve, Robert Luscombe, general sales manager for Penn Controls, Inc., told the Detroit chapter of the Refrigeration Service Engineers Society recently.

He said that about 75% of the water regulating valves that are returned to the factory as defective after a few weeks of service are not mechanically defective at all.

"When we inspect the valves, we find balls of solder, steel shavings, pieces of rubber, scale, or dirt under the valve seat, holding the valve open and causing leakage."

That is all that is wrong with

the valve, he noted. But still it involves the factory in the paper work necessary to taking back the valve, the time and labor to examine it, recheck it for proper operation, repack it, and send it back to the wholesaler.

"Is the factory to blame for such defects?" he asked. He didn't think so.

FLUSHING OUT VALVES

Valves can also be flushed out, he noted, by inserting a screwdriver or similar tool under the main spring and lifting upward away from the valve body.

Luscombe also warned servicemen against changing the adjustment on water regulating valves after they have once been set to work with a particular system.

He pointed out that when a serviceman gets a call on a particularly

hot day that the head pressure is running high on a unit, his first thought is to get more water flowing through the system. So he slacks off the pressure on the valve.

This works fine, Luscombe said, until the customer gets his next water bill. Then he calls the serviceman back. The serviceman finds that the water valve is leaking and allowing water to continue to flow even when the compressor is shut down. His immediate conclusion is that that valve is no good and replaces it with another one.

"So don't try to adjust the water valve except possibly to raise the pressure in instances where water temperature is low," Luscombe advised.

WATER CAUSES MANY PROBLEMS

Water can cause any number of problems for valve manufacturers, he declared. Water pressure varies widely in different areas and at times within the same area. He said that it was not good to attempt to operate a water-regulating valve at water pressures higher than 80 lbs.

Water temperature also varies widely in different sections of the country, from an average of about 94° F. in Dallas to about 38° F. in Duluth. Water chemistry is a third factor that varies widely. Some elements in water can dissolve a valve seat entirely in three weeks, he said, by taking the zinc out of the brass.

Electrolysis and hydraulic water hammer are two other destroyers of valves. Water hammer is known to develop pressures of 800 to 1,000 p.s.i., he noted.

"What do you think that does to a bellows?" he asked. "It can crush it."

If you have a water valve chattering, the first thing to check is whether or not the valve was installed backward. Water flowing the wrong way through the valve can cause chattering, he said.

Reading Tubes '53 Sales

Rise 21% to Record High

NEW YORK CITY—Reading Tube Corp. in 1953 scored a substantial gain in earnings on a record high volume of sales, Martin Mack, president, revealed in the annual report to stockholders.

The corporation, which manufactures copper and brass tubing for use in the plumbing, heating, refrigeration, air conditioning, and appliance fields, recorded sales of \$13,490,290 for the year.

This is 21% above the previous record high sales of \$11,112,469 attained in 1952 and 130% more than the \$5,840,823 volume reported five years earlier.

Net profit after all charges and taxes amounted to \$423,132 in 1953, which is 16% in excess of the 1952 adjusted net profit of \$363,237. After dividend requirements on the class A stock, 1953 per share earnings on the 489,952 shares of class B stock were 82 cents per share.

Westinghouse Appoints Mackie to Service Post

NEW YORK CITY—The appointment of William A. Mackie as eastern regional service manager for Westinghouse appliances was announced recently by L. K. Baxter, general service manager, Westinghouse Electric Appliance Div. Mackie's headquarters will be located at the company's New York offices, 40 Wall St.

In his new capacity, Mackie will be responsible for supervision of service policy and service training within his region as well as maintaining contact with distributors and dealers within his headquarters area.

The division's eastern region includes all of New England, New Jersey, Delaware, Maryland, District of Columbia, New York, parts of Pennsylvania, North Carolina, West Virginia, and Virginia.

A native of Montclair, N. J., Mackie has served with the Westinghouse Electric Supply Co. since 1937 as a dealer training supervisor and as branch service manager. Immediately prior to his present appointment, he was district service manager for the supply company at Newark, N. J.

Davidson Represents Esco on West Coast

SOUTH GATE, Calif.—Joe Davidson and Associates, technical service representative here, has announced that it now represents the Electric Service Engineering Co. of Joliet, Ill. on the west coast.

W. H. Grumet, chief liaison engineer, said that with a staff of eight experienced graduate electrical engineers, Joe Davidson and Associates is able to offer application engineering service when and where it is needed.

JUST ASK US

Turn to "What's New" Page for useful information on new products.

TWO BIG REASONS

for insisting on
Marsh-Electrimatic Regulators

TWO-PLY BELLOWS

NEOPRENE BOOT

Two-ply bellows has more than twice the life of single-ply

Break-down tests prove that the Marsh-Electrimatic two-ply bellows has 2½ times the life of an equivalent one-ply bellows. This is because a single-ply bellows must be made of heavier metal...and naturally the heavier metal rapidly breaks down under the fatigue of flexing.

Boot eliminates packing — friction

At one time the best way to eliminate packing was with a metal bellows, but this Neoprene boot has all the advantages of a bellows plus ten times its life. We have repeatedly proved this, too...by cycling the boot, without failure, under actual operating conditions ten

times as long as we could cycle the best metal bellows.

These are just two of the many features that make the Marsh-Electrimatic last longer and function better. They are typical of plus values found in the entire Marsh-Electrimatic line. Write us or see your wholesaler.

MARSH INSTRUMENT CO. Sales affiliate of Jas. P. Marsh Corporation, Dept. D, Skokie, Ill.

MARSH-ELECTRIMATIC



You can depend on Wagner Motors to furnish PLENTY OF POWER for your product

Wagner 15 hp
Splash-proof
polyphase
driving water
circulating pumps
at a large oil
processing plant
in Louisiana.

BLOWERS

Wagner 40 hp Explosion-proof motor driving a blower to draw grain into a hopper at a Southern brewery.

WAGNER ELECTRIC CORPORATION
6441 PLYMOUTH AVE., ST. LOUIS 14, MO., U.S.A.

BRANCHES AND DISTRIBUTORS IN ALL PRINCIPAL CITIES

ELECTRIC MOTORS
TRANSFORMERS
INDUSTRIAL BRAKES
AUTOMOTIVE
BRAKE SYSTEMS—
AIR AND HYDRAULIC

H34-6

XUM

Equipment Selection

Factors In Selecting Air Conditioning Equipment Outlined For Air Force Engineers at Conference

Editor's Note: This is the fourth instalment in a series of articles presenting the papers given at the recent Refrigeration & Air Conditioning Engineers' Conference held by Headquarters, United States Air Force at the Pentagon in Washington, D. C.

Previous articles discussed "Load Calculations" for a typical synthetic flight trainer building. This instalment takes up "Equipment Selection" for the same structure.

Future articles will outline principles and details of equipment installation and arrangement and controls.

By R. A. Gonzales, Director of Application Engineering,
Airtemp Div., Chrysler Corp.

The latest definition of comfort air conditioning, according to the ASHVE Guide, is the process by which simultaneously the temperature, moisture content, movement, and quality of the air in enclosed spaces intended for human occupancy may be maintained within required limits.

This is a more modern version of the previous definition which described air conditioning as the control of the five factors of:

Temperature.

Moisture content.

Air motion (or circulation in the space).

Outside air ventilation.

Filtering.

These five factors are important because:

Filtering promotes cleanliness of the air.

Outside air is still our most reliable means of assuring against vitiation of the air.

Air motion within the space promotes comfort and heat leveling.

Temperature control is a vital factor in comfort, not too cold or too warm.

Moisture Content Important

The moisture content is fully as important as the temperature component, but it is less well understood and appreciated.

Like the dry-bulb temperature in the atmosphere, the water vapor or the moisture is subject to extremes. At times, in some cases, there is very little vapor content in the atmosphere and this leads to the conditions known as extremely dry or arid conditions.

Under these conditions, all matter and materials containing a water component tend to lose some of this water component to the dry atmosphere. Any materials subject to damage by drying out will be damaged under such conditions. For example, cakes, bread, and many other foodstuffs are readily damaged by exposure to excessively dry atmospheric conditions.

Damages of Excess Vapor

At other times, in most areas, the vapor content of the atmosphere may approach the saturation point or even exceed it. When the vapor content of the atmosphere exceeds the saturation point, the condition of fog occurs and free moisture is readily condensed on any cool object coming in contact with the fog. The damages of excess vapor content have been experienced by most of us when we have visited the warm-humid or hot-humid areas.

The moisture component of the atmosphere is a completely independent function of the atmosphere and does not depend on the presence or absence of the other normal components of the atmosphere. The sun would still vaporize the water from the surface of the ocean, the rivers, the lakes, and the moist earth even if the other components of the atmosphere were not present.

Nature increases the moisture

content in the atmosphere by the vaporization of moisture from the surfaces of the earth. It also reduces the moisture content of the atmosphere by precipitation of the free moisture back to the surfaces of the earth. In air conditioning, we accomplish a similar change in moisture content of the inside of a building by increasing or reducing the water vapor in the atmosphere inside the building.

Air Conditioning Process Outlined

Now let's review just how the process of air conditioning is accomplished in the summer when mechanical cooling is employed in the process.

The air to be conditioned passes through the filters where it is cleaned. It then passes through the cooling coil where it loses the excess heat and moisture. The cool and dehumidified air is then circulated by the fan to the conditioned space where it can absorb the heat and moisture gain of the space in rising to the desired room conditions.

This then, is the conditioned air cycle, picking up the heat and moisture on the conditioned space and depositing this excess heat and moisture at the cooling coils of the system.

The heat that is accepted at the cooling coil is carried to the compressor by the refrigerant gas. The temperature level of the heat is elevated by the action of the compressor and the heat is then discharged into the condenser. In the condenser, the heat is rejected, by simple heat transfer, to the city water. The refrigerant changes back to a liquid as it gives up its cargo of heat. It then circulates back through the expansion valve to the cooling coil where it again picks up a cargo of heat.

This is the refrigerant cycle—an endless conveyor belt that accepts a cargo of heat at one point and discharges it at another point.

Cooling Coil Action Is That of Heat Transfer

The action at the cooling coil is that of simple heat transfer. The air loses the heat and some of the water vapor condenses because the surfaces of the cooling coil are colder than the air and the water vapor. The very considerable heat-carrying capacity of the refrigerant is due to the vaporization of the refrigerant that takes place in the cooling coil. The refrigerant accepts the heat cargo by changing from a liquid to a vapor form.

The low temperature refrigerant at its relatively low pressure is compressed by the compressor. This changes both its pressure and temperature level. Whereas it was formerly heat-laden gas at a low temperature and low pressure, it is now heat-laden gas at a high pressure and a high temperature.

When gas enters the condenser, another simple heat exchange takes place. The higher temperature gas loses its heat to the lower temperature water, and the refrigerant is then ready to return through the expansion valve to

the cooling coil and continue its function of being an endless belt that accepts heat at the cooling coil and discharges heat at the condenser.

This then is the refrigerant cycle, an endless conveyor belt that takes the excess heat from the conditioned air stream and discharges it into the condenser water stream.

Cooling Water Is Not Wasted

When the air conditioning plant is located so that an adequate supply of cooling water is readily available, the water may be passed through the condenser once and then discharged. That is the cycle that we have just reviewed. It is not a "waste" of water as is sometimes inaccurately alleged. The water serves the useful function of carrying away the unwanted heat.

However, there are many circumstances in which it is desired to practice either partial or total water conservation. A cooling tower can be used in connection with heat rejection from the air

conditioning system. In this case, the water accepts the heat from the refrigerant in the condenser and then conveys this heat to the cooling tower. In the cooling tower, the heat-laden water is sprayed in counter-flow action to a stream of out-of-doors air.

The heat-laden water loses its excess heat to the air through normal heat transfer and also by evaporation of a portion of the water. In this case the heat exchanged from refrigerant to water takes place in a closed shell and tube condenser and the water is then circulated to the cooling tower when the heat exchange from the water to the air is accomplished.

Another condenser cooling tower arrangement is known as an evaporative condenser. In this arrangement, the condenser coils are installed directly in the cooling tower and the heat exchange from the refrigerant to the water and from the water to the air all takes place in this evaporative condenser. It is most frequently used when the evaporative condenser is located close to the compressor and long refrigerant lines are not required.

'All-Electric Air-Cooled' System Becoming Popular

The "all-electric air-cooled" cooling system is becoming increasingly popular in the smaller sizes of air conditioning. It has long

been used in room air conditioners and is now available in sizes up to 5-hp. condensing units. It is expected to be the favored system for the air conditioning of residences and similar projects wherever water problems of supply, disposal, or maintenance favor the elimination of water from the condensing cycle.

In this case, the heat is rejected from the refrigerant to a stream of out-of-doors air that is circulated through the condenser coil.

Now that we have investigated the heat rejection side thoroughly, let's turn to the air discharge in the conditioned space. Those of us that have been doing air conditioning for some time are thoroughly accustomed to using air supply outlets at various locations in the room. Most of all the conceivable locations have been used successfully at one time or another. The ceiling outlet has the advantage of usually requiring the least adjustment and has the best characteristics of retaining its adjustment in spite of cleanings and repainting.

A high side wall air inlet, one of the more popular types, can be readily adjusted to provide either wide angle distribution or long carry when the grille is of the double deflection adjustment type.

The room air conditioner distributes air from the window sill height.

(Continued on next page)

Selection of Equipment--

(Continued from preceding page)

Window Sill Another Location for Supply Outlet

Another very usual location for a supply outlet has been in the sill of a window. Here the air is distributed from a height of about 30 in. from the floor.

A supply outlet that is finding considerable favor in residential air conditioning is the floor outlet located near the window of an outside wall. All supply air outlets should be applied, in general, in accordance to the manufacturer's recommendations with regard to location, air quantities, and velocities.

There is quite a wide choice of equipment parts and methods that are available in air conditioning. To the experienced engineer in this field, this situation of a wide variety of equipment from which to choose is both a desirable and a completely understandable situation. It is not always so to the engineer that is less familiar with air conditioning and refrigeration, and it is frequently both baffling and confusing to management people that have not had engineering training in this field.

A reasonable choice is a welcome circumstance; too wide a choice can result in a bewildering confusion. When we have to make a choice, we want to make the best

choice and we strive to find out how to make that best choice. In making our study we may come up with a clear picture of the equipment that we want to use or we may come up with a very definite feeling that this is a very confused industry that has not yet learned how to resolve its problems into clean-cut solutions of the best way to get the job done.

Industry Not Confused

While we are willing to plead guilty to having our share of confused people in our industry, we do not agree that as an industry, we are in any way confused. We are in a process of development, in a rapidly growing industry, and we are approaching the problems in the very best manner.

Not all mechanical equipment offers such problems of selection. There are even segments of refrigeration that are quite well rationalized into one generally accepted solution that materially simplifies the problems of equipment selection. For example, in the decade of the 1930's if we wished to preserve foodstuffs for a residence, we would have thought of then a modern refrigerator with its own cooling system and ice-making equipment. The major choices to be made then were with regard to size and source: how large a box and where to buy it.

This problem is no more complicated today, from the refrigeration standpoint, but the frozen food trend has certainly widened the choice. Some families select a dual compartment refrigerator. Others use both a refrigerator and a frozen food chest. These are just some of the choices and they are not generally considered bewildering.

Transportation Also Offers Problems of Selection

Let's take another example from everyday experience. Suppose that each of us had the problem of traveling from here to Los Angeles by public transportation. We would have a number of choices of methods by which we could travel. Most of this audience would think first of air travel. But on investigation you would also find that you could travel by rail, by bus, and by ship. You would also find that there are regularly scheduled trips by each of these different modes of transportation and that enough people travel by each mode to support these regular schedules.

Many of these people that use these various modes of transportation are making repeat trips and some travelers have used all types of transportation and therefore should be qualified to select the one best way to travel from here to Los Angeles.

If there were one way that was demonstrably superior, it would become the most popular mode of travel and the other modes would fall into disuse. The fact that several modes of travel exist in competition with each other is the best possible proof that each method has its advantages and that these advantages are sufficiently comparable for competitive consideration.

We can surely agree that not all of the people that are traveling from Washington to Los Angeles use the same methods or routes. We can also agree that even the same person does not always use the same method and route.

Factors Involved In Making Selection

On careful inspection of the equipment selection problems involved in air conditioning equipment, we find that some of the same factors are involved in this selection of modes of travel. Some of the choices involve cost, some involve the time factor; other choices take into account the local conditions—and, since we must resort to human beings to decide these matters, some of the choices are understandable based on personal preference.

Technological advance, of course, is always seeking more economical, more compact, and more trouble-free equipment. Thus, this also contributes to a constantly changing picture.

So we can summarize these thoughts by stating that in air conditioning, we have a wide variety of equipment arrangements and equipment assemblies from which to choose. We can agree that this wide choice is available because some types and arrangements work best under some conditions while others perform in a superior fashion under other sets of circumstances.

Designing and Selecting Equipment for System

Having thus considered briefly the equipment that is available for system design, we can now turn our attention to the problems as they pertain to designing a system and selecting equipment for a specific project.

The design of an air conditioning system and the selecting of equipment for a small project of comfort cooling may be a simple case of a load survey and the size selection of a self-contained piece of equipment to do the project. However, in the case of larger and more complicated projects and in



the case of special requirements projects, the system design and equipment selection is an engineering process rather than a routine action.

In these more complicated jobs, the engineer usually gives consideration to several general system designs as he gathers the information for the load survey. As the load survey proceeds, there are more facts and more information available for further consideration of the system design and the equipment selection.

Design Should Be Functional

In all cases, the design of the system should be a functional and integrated part of the building. It should match the purposes and uses of the building just as the electric lights, the plumbing, and the other features of the building do.

One of the basic requirements toward the making of a good design is a willingness on the part of the designer to discard a previous idea and accept a new start when new information indicates the need for different treatment

than that afforded by the design currently being considered.

The processes of load calculations, system design, equipment selection, and installation planning are all interdependent. It is not infrequent to have the requirements of the next stage modify some of the decisions and conclusions reached in the preceding stages. For example, the space requirements that must be reconciled in the installation planning may change the equipment selection from a field-assembled fan-coil unit to a factory-assembled type of fan-coil unit, as has occurred in the case of our example problem.

In other cases, the reverse has happened and it has been found that only a field-assembled unit could be made to fit the space limitations. The modifications to the design sometimes even extend into the installation stage where it is sometimes necessary to re-route ducts and pipes to suit other building situations that somehow have not followed the original plans and drawings.

These then are some of the

(Continued on next page)

Only the

Flexazone

Central-Plant

Air Conditioner

Gives you

24 ARRANGEMENTS!

ZONES EASILY FIELD ALTERED!

HORIZONTAL OR VERTICAL DISCHARGE!

PLUS D-H EXCLUSIVE DAMPER ARRANGEMENT

Gives independent, variable control for as many as 7 separate zones

Flexibility—that's the *extra* you get with Flexazone! Only Flexazone can be assembled 24 different ways, depending upon available space—in the field. Only Flexazone allows you to add or change zones at any time—in the field. And only Flexazone gives you a choice of horizontal or angular air flow from the plenum. These *exclusive* features pay off in cheaper installation, greater design-freedom and lower costs—important benefits, whether you're a contractor, architect, engineer, or building owner!

Want to learn more about Flexazone? Write for bulletin C-422.

drayer-hanson

INCORPORATED

3301 MEDFORD STREET, LOS ANGELES 63, CALIFORNIA

Now! LIQUID CHILLERS with INNER-FIN

Most Compact Shell and Tube Chiller Made

Heat-X Inner-Fin Chillers fill the need for a compact, highly efficient direct-expansion evaporator for use in chilled water air conditioning systems and on other liquid cooling applications.

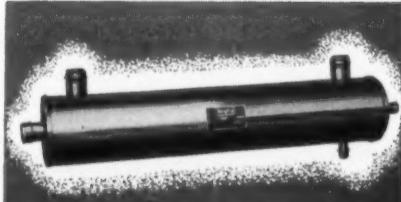


Patented **Inner-Fin** construction makes the Heat-X Chiller the most compact shell-and-tube chiller on the market. Copper inner-fins in the refrigerant passages greatly increase the heat transfer efficiency . . . permit smaller size and lower cost.

Water passages of Heat-X Chillers are of non-ferrous construction to eliminate any possibility of corrosion. Since they are single pass, there is no oil trapping problem.

Capacities of Heat-X Inner-Fin Chillers cover the range from 3 to 35 tons. Selection of water baffle spacings is available to meet a broad range of water pressure drop requirements. Two inch thick rock cork insulation with sheet metal cover is available on all models.

Request free descriptive bulletins No. 1037 and No. 1038.



THE HEAT-X-CHANGER CO., Inc.

BREWSTER - NEW YORK

Selection of Equipment--

(Continued from preceding page) background notes and thoughts on equipment selection. These are the considerations that warrant the use of uniform design directives and criteria. These are also the considerations that will secure for you a sympathetic and open-minded review of any specific recommendations for a special case that you may have occasion to forward to the headquarters office.

In reviewing the equipment we have mentioned some of the specific considerations and merits of each type of equipment. We can now consider some of the job situations that affect and influence the equipment selection. Here again, we face the time limitation and can only take a few examples of the types of specific job considerations that affect equipment selection.

Basis For Selection

Now let's set up the basis for equipment selection. In our commercial and industrial air conditioning, we accept the definition that the "proper equipment capacity is that capacity which will satisfy the customer when operating properly." In the terms of your work, I would phrase it that the proper equipment capacity is that which when operating properly, satisfies your design standards, and accomplishes the intended purposes.

This means that equipment selection is the process of engineering the equipment and the other circumstances of the project into an integrated and balanced entity.

The air conditioning should grow right along with the rest of the project and it should be engineered to the purpose just as the lighting, the floor covering, and the other portions and parts of the building are designed to accomplish the specific purpose of the building.

Load Estimate Is Best Starting Point

The time-honored and best starting point for equipment selection is the load estimate. The load estimate, as admirably discussed for us in the preceding lecture, has been set up on the most modern basis that is available to the engineering profession for the estimating of heat gains in modern buildings.

Although we end up with an estimate, the experience factors back of these estimating methods are such that when the estimate has been properly prepared by an experienced engineer, the resulting estimate of capacity may be regarded as a virtual certainty for the conditions which were taken into account in the estimate.

But the question is often asked: "Since it is an estimate (as contrasted with a factual sum such as a bank balance) what is the tolerance?" Can we, in order to make an equipment selection, safely go 5%, or 7%, or 0% below the initial capacity figures?

Well, assuredly, every good estimate should have some margin, just as an automobile has a margin of horsepower in its capacity. We would not tolerate a car that had to go to the shop if any part of it went slightly out of 100% performance adjustment. Neither will we appreciate an air conditioning system that will not produce results unless the filters are freshly clean, the expansion valve is in perfect adjustment, and all other parts at exact adjustment for maximum performance.

We can find part of the answer to the question of capacity tolerance by inspecting the load calculation. For example, in the present case, our load calculation includes the building occupancy by 264 people although the expectancy is for a maximum simultaneous occupancy of 200 people. So if we wanted to do a detailed re-analy-

sis, we would, in this case only, succeed in convincing ourselves that no unnecessary padding has been included in the estimate of capacity as prepared.

There is another way of answering this question of "How much tolerance is there in these figures?" and "How far can we go to arrive at an acceptable equipment selection?" There are, in fact, several ways to answer these questions. One way is to say that figures are sacred and any equipment selection should equal or exceed the tonnage and that nothing over a 1% variation below the stated figures would be acceptable. Such a statement would not convince many people. The second alternative of re-inspecting the figures has already been discussed and its limited value in the presence of a properly prepared estimate has been inspected.

There is another approach to this question which is essentially a question of moving up or down in any marginal cases of equipment selection. This additional approach is to consider the other job circumstances. Some engineers like to call this additional survey "a look at the forest after having inspected the trees." The same business factors that affect the selection of other equipment for the building project are equally valid with reference to the air conditioning.

Figuring a Temporary Structure Installation

For example, a temporary structure built with the expectancy of being dismantled after a specific use will feature the lowest cost compatible with the appearance requirements. It will also feature low cost of both assembly and teardown and full consideration of recoverability of equipment values. The major considerations in such a case all argue for resolving marginal cases on the low side for all reasonable and tenable cases of marginal consideration.

As a contrasting case, let's consider a very permanent type of installation of use requiring the upper levels of materials and construction such as the building under consideration in the present problem.

All of the considerations here argue, in my judgment, for resolving all marginal cases on the high side. This again falls in line with the paramount thought that air conditioning is an integral part of the building and is subject to the same quality considerations as the selection of building materials and furnishings.

I would like to offer another additional thought in connection with the air conditioning designer's problems. The designer must always keep in mind the circumstances of execution know-how, the availability of operational know-how, and the availability of service know-how. These factors also have their influence on the optimum equipment selection.

In some cases, of course, in dealing with problems in continental United States, these matters are not of such great moment but in some specific cases, these considerations of the type of execution, operational, and maintenance labor that are going to be available are of very considerable importance.

Location May Influence Equipment Selection

Equipment selection for a specific case also carries with it the connotation of a specific location. The location may influence some of the basic equipment selection. For example, the method of handling the heat disposal presupposes the use of water conservation in many areas, and this and similar design criteria are covered in your regulations. In the present case, the use of water conservation has

been accepted as a requirement.

For this size of equipment, the use of a compressor unit with an evaporative condenser is an acceptable alternate to the use of a condensing unit with a forced draft cooling tower. Where the compressor and cooling tower (or evaporative condenser) locations are close together, either arrangement may be regarded as optional to the other arrangement.

Where a more considerable distance (more than 25 or 30 ft. of piping) separates the locations of the compressor and the cooling tower element, the choice begins to favor the condensing unit-cooling tower combination because a close-coupled refrigerant system has proved generally more desirable and in some instances, there is more water piping know-how available than "Freon" piping experience. In the present case, the decision was taken to show a condensing unit-cooling tower combination.

Compressors, Motors Matched by Mfrs.

Compressors are generally matched up to standard motors by the compressor manufacturers. This assures the maximum capacity for the lowest cost from the compressor-motor combination. This also more or less ties the compressor sizes to motor sizes so that the increments of motor availability are reflected in condensing unit availability.

Thus, in the range of the 51.6

tons of the present load calculation, we have a 50-hp. and a 60-hp. motor-compressor combination to choose from. Here again, the designer can exercise his judgment and prerogative of equipment selection by choosing between these two horsepowers from the compressor or condensing unit.

In keeping with the permanent type of building and the equipment housed in it, the choice was made to use a 60-hp. unit. Experience has shown that good design procedure is most readily obtainable through the process of selecting the compressor-motor combination first and then designing the balance of the system to suit the particular unit selected. In this present example, the compressor performance at 35° evaporator and 92½° water-off the condenser was found to be 53.65 tons.

Compressor-Motor Combination First Step In Selection

The condenser water-off figure was determined from the usual performance and operating data used in 78° wet-bulb design areas. With 78° wet-bulb air to the tower, an 85° water-off the tower can be economically selected from the cooling tower data.

It has also been determined by calculations and verified by practice that it is in the range of best economy to circulate 4 g.p.m. per ton in the 78° wet-bulb design areas. This circulation of 4 g.p.m. per ton through the condenser re-

sults in a water temperature rise of 7½° through the condenser.

It is in this manner that the trial condition of 92½° water-off the condenser was arrived at. Since an acceptable condensing unit selection has been made on the basis of the trial cooling tower data, the actual cooling tower selection can be made on the same basis.

Selecting Water Line Size For Condenser

From the standard charts and tables, the water line sizes may be selected for the condenser water circuit. Based on the circulation of 200 g.p.m., the piping on the discharge side of the pump is selected at 3 in. I.P.S. with a pressure drop of 11.3 ft. of head per 100 ft. of line. The water piping on the pump inlet side is selected at 3½-in. size with a pressure drop of 5.4 ft. per 100 ft. of head.

The required pumping head is determined from the resistance of the system. The pressure drop values of the piping, the condenser, the cooling tower spray nozzles, and the vertical height from the spray nozzles to the water level in the cooling tower pan are added together. In the present case, this was found to total 40-ft. head and the pump selection was made on the basis of 200 g.p.m. and 40-ft. head. A standard centrifugal pump may be used.

(To Be Continued)

Best Line!

Servel Wonderair

The Servel dealer offers the widest air conditioning line . . . residential, commercial, industrial! Only Servel features silent, gas- or oil-fired All-Year® units . . . electric package units, water chillers!

Best Name!

Servel Wonderair

Servel's reputation for quality and dependability is a big sales asset. There are thousands of Servel air conditioners in America's homes today.

Best Advertising!

Servel Wonderair

The Servel Wonderair story is told time and again to your prospects in *The Saturday Evening Post*, *Better Homes And Gardens*, *House Beautiful*, *House & Garden*, *Small Homes Guide*, *Time*, *Newsweek*, and a long list of trade magazines!

Best All'Round!

Servel Wonderair

Products, markets, profits—the Servel dealer has the greatest opportunity. Send coupon for details.

SERVEL, INC., Air Conditioning Division
Dept. DE-44, Evansville 20, Indiana
Please send details on Servel line and franchise.
Name _____
Firm _____
Address _____
City _____ Zone _____
County _____ State _____

Why Not Change Parts of Hermetic Systems?

This Third and Concluding Part of the Discussion Describes Some of the Technical Factors In Field Replacement of Sealed System Parts

The question arises in your mind as to how we would change an evaporator or a condenser or a compressor or even repair a leak when our systems were hermetically sealed systems and having no valves or other means of access to the system.

Do we just cut the lines from the compressor if the motor windings have failed and then re-braze a new compressor into place?

Should we consider that some people would try to service the product and not be experienced in silver brazing?

A solution had to be found which would not in any way be injurious to the system by overheating through brazing and it still had to be so simple that the work could be performed in a short period of time.

Our engineers, in conjunction with supplier's engineers, designed two types of fittings. The fittings that we supply with every new component part are very simple to use as one needs only to cut the necessary lines in order to remove the part and on one type of fitting you just remove the burr from the inside of the cut tubing.

On another fitting it is only

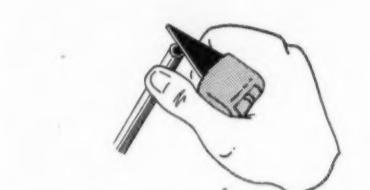
necessary to cut the tubing as the joint is made with a special fitting around the periphery of the tube and is made under pressure and will withstand as much abuse as a normal silver braze joint, and does not have the leak potential of the ordinary connections which were used years ago.

Changing a Compressor

Changing a compressor takes as much time as it would for one to cut two pieces of copper tubing, remove the mounting bolts from the compressor frame, remove the relay, overload, and other electrical connections at the compressor, replace the new compressor and make two mechanical joints with crescent wrenches, and charge the system through a special valve that remains in the suction line.

The compressor is shipped to our distributors, dealers, and/or service agency through our distributor and is fully charged with oil and completely sealed and carries a positive pressure of "Freon."

You might ask what about moisture getting into the system while you are changing the compressor. We have run experiments in 95% relative humidity rooms and



BEFORE RE-CONNECTING LINES using special fittings, Coolerator's service department points out it is important to remove the burr from the cut tubing with a special tool, in the manner shown above.

leaving the connections open on the compressor for three-minute periods between changing and reconnecting and find that we could change a compressor as high as seven times before sufficient moisture could enter the system to cause disruption in the refrigeration system. Oh yes, there is a good low-side drier.

How System Is Charged

You next may ask how is the system charged? The special valve that we use for charging is a restricted "T" valve, and the restriction allows a serviceman to charge the system with liquid instead of vapor, remove his charging hose, and make the necessary capping operation without sufficient loss of "Freon" to disrupt the operation of the system.

The reason that we set up the method to charge with liquid is, as you well know, to somewhat reduce the hazard of moisture that might be in your "Freon" tank.

You and I know that if there were 10 parts per million of moisture in the liquid of the "Freon" tank, there could easily be 70 parts per million of moisture in the vapor in the self-same tank since the multiple of seven presents itself between the liquid and the vapor content of the tank.

These special fittings we use are not to my knowledge being used by other manufacturers since from time to time I receive letters from other manufacturers asking just how we do change component parts and from whom do we get our special fittings, and could they be made available to them.

We believe that the conclusion that we reached in 1945, that we would change component parts of the refrigeration system, is correct and recently our decision has been substantiated in part by two other refrigeration manufacturers.

Others Become Interested

One of these manufacturers is establishing the changing of component parts in a refrigeration system by using independent servicing organizations in quite a number of the cities throughout the United States.

It so happens that in Duluth this company of which I speak has franchised a service organization to change only the component part of the refrigeration system. This company was one of the leaders of the "Back to the Factory" movement.

Another company of which I am thinking has set up their distributors to perform the work of changing a component part and even to the repairing of the hermetic compressor which was previously performed at the factory.

Probably at this point I should explain in detail just how we would change a compressor. This is completely outlined in our Product Wise Information Manual, that I

Is a New Era In Service Work Coming Up?

John Unger's talk "Why Not Change Parts of Hermetic Systems" was presented at the ARI Educational Conference at Long Beach, Calif. and those who heard it there were quick to agree that it was one of the most noteworthy discussions of refrigeration service trends to be presented in many a year.

Importance of the discussion is that it not only talks about service trends in generalities, but outlines *why and how* a major producer of refrigerators, freezers, and room air conditioners has put into operation a plan for changing units in the field.

The material has been published in three instalments. Parts I and II, published in the two preceding issues, reviewed compressor and sealed refrigeration system development, and the "Back to the Factory" movement on inoperative units, and then detailed the organization of a new plan of field changing of units and parts.

Part III, in this issue, describes some of the equipment and methods that are recommended for best practices in field work on changing hermetic units and parts.

speak of previously, and the following is taken from the manual.

Special fittings are available; for the copper to copper connections they are made of brass, and with aluminum to aluminum joints such as in freezers, we use aluminum fittings.

Step-by-Step Outline

For the changing of compressors, the fittings required are (1) one-quarter by one-quarter special male flare restricted "T" type "F" and (1) only $\frac{1}{16}$ by $\frac{1}{16}$ inverted male union type "G."

You may find that the following seems to be too elementary, but here is the procedure.

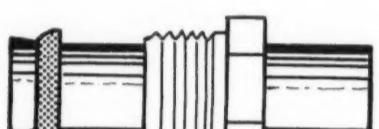
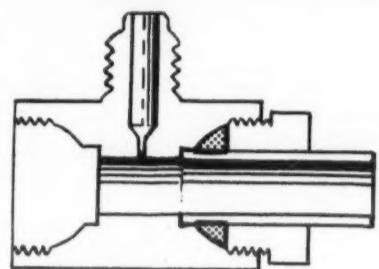
- (1) Remove service cord from electrical outlet.
- (2) Remove compressor shroud.
- (3) Remove junction box cover and service cord leads.

(4) Cut discharge line near compressor at a straight section of tubing at approximately four inches from compressor.

(5) Cut suction line near compressor at a straight section of tubing at approximately four inches from compressor.

(6) Remove bolts holding compressor to base.

(7) Remove compressor from machine compartment and pinch



HOW TUBING IN SEALED SYSTEM fits into restricted "T" fitting that permits charging of the system with liquid refrigerant is shown in the above drawing.

open ends of tubing to prevent moisture from entering the defective compressor.

(8) Cut the jumper tube on the new replacement compressor to a desired length.

(9) Clean and de-burr lines that

(Continued on next page)

Go Modern—Sell Modern

WITH Temprite 3-Way Service



Temprite Products Corporation P. O. Box 72-A, East Maple Rd., Birmingham, Michigan Send me distributor franchise information, I am interested in handling Temprite Water Coolers.
Name _____
Address _____
City _____ State _____



COMPLETE INFORMATION ON

PA[®]400

Davison's NEW Refrigeration Grade Silica Gel

Free four-page, two-color folder gives complete information on the NEW PA 400 . . . includes moisture adsorption capacity chart, check list, specifications, how to use information, etc.

Write today for your free copy. Remember, buy the best in refrigeration desiccants . . . buy the NEW PA 400!

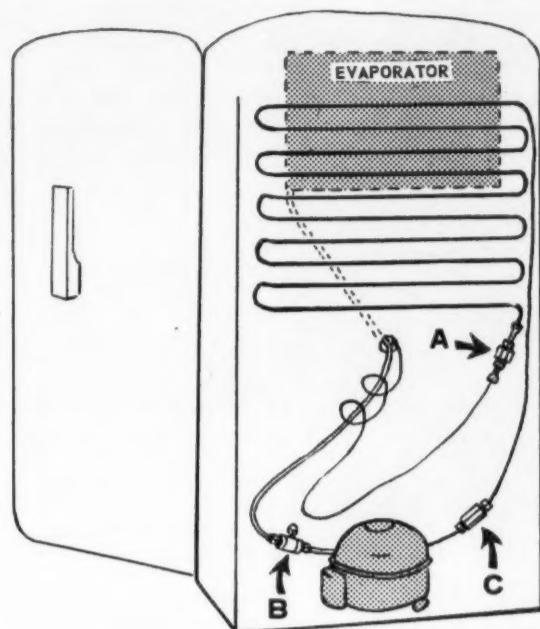


Progress Through Chemistry

THE DAVISON CHEMICAL CORPORATION

Baltimore 3, Maryland

Producers of: CATALYSTS, INORGANIC ACIDS, SUPERPHOSPHATES, PHOSPHATE ROCK, SILICA GELS AND SILICOFLUORIDES. SOLE PRODUCERS OF DAVCO[®] GRANULATED FERTILIZERS.



GENERAL POSITION OF THE SPECIAL CONNECTOR FITTING for various operations is shown in this drawing. For removal of the condenser, the connector is used at "A." Position "B" is used in the removal of the evaporator. To change a compressor, connectors would be used at positions "B" and "C."

Why Not Change Parts?--

(Concluded from preceding page) extend from the compressor and also the lines from condenser and evaporator.

(10) Place new compressor in machine compartment and secure at the base bolts.

(11) Install a $\frac{1}{4}$ in. by $\frac{1}{4}$ in. special restricted "T" type valve on the suction line joining suction line to the compressor.

(12) Install $\frac{1}{16}$ in. by $\frac{1}{16}$ in. union type "G" on compressor discharge condenser inlet line, break connector, and plug condenser inlet line with a rubber stopper.

Must Pull a Vacuum

We now have the suction line attached to the compressor and we have the condenser inlet line plugged because of the stopper. Therefore, if we start the compressor we will pull a vacuum.

(13) Attach gauge manifold to "Freon-12" drum and restricted "T." Purge line before connecting to the restricted "T."

(14) Replace electrical connections on the compressor.

(15) Start compressor and pull the vacuum until pressure at the discharge line at the compressor is not noticeable. Continue to pull at 23-in. vacuum for at least an additional 10 minutes. Plug the open end of the discharge line coming from the compressor with the rubber stopper and disconnect service cord shutting off compressor. The system should then maintain a vacuum.

(16) Relieve the vacuum in the refrigeration system by opening the valve connected to the "Freon" drum. When pressure of at least 15 lbs. is recorded on the gauge, remove discharge line and condenser inlet plug and complete the high-side connection by joining the $\frac{1}{16}$ in. by $\frac{1}{16}$ in. union.

(17) Plug in service cord and proceed to charge the system with "Freon" until a frost line appears on the suction line coming out of the cabinet.

TURN SURPLUS STOCK INTO READY CASH!

We'll buy your excess inventory --

**CONDENSING UNITS
COMPRESSOR BODIES
CONTROLS
MOTORS
PARTS**

Any quantity—large or small—
We'll pay spot cash!

Send complete listing in duplicate
with your best offer to

NEW YORK REFRIGERATION
440 Lafayette St. • New York 3, N.Y.

know whether it is definitely necessary to use fittings or could servicing organizations silver braze the component part back into the system. For certificate members of RSES who have the necessary knowledge, if they have the necessary facilities and equipment, we then approve them for the changing of component parts by silver brazing. They have the knowledge, facilities, and equipment to prevent oxidation caused by overheating when making the silver braze joints.

We as a manufacturer and you as representatives of servicing agencies are in business to make money. So, now let's take a look at our experience since the decision was made to change component parts on refrigeration systems back in 1945.

Benefits of Parts Changing

What benefits did we receive when we concluded that we would follow the plan of changing only the component part of a refrigeration system that became defective rather than the whole system?

It simply meant that our distributors and dealers needed to expend less money for complete replacement units.

It meant that the customer had the portion of the product that was defective replaced right in her own home and thereby saved an extra trip for the retail outlet or serviceman in making the call. If they changed a complete unit they would have taken a loaner unit to

the customer and then had her's shipped back to the central servicing station and when it was serviced and came back they had to make the second trip to the customer's home, if she demanded the return of her original equipment.

It also meant that we as the manufacturer paid less freight and naturally had less bulk to handle.

Fewer Improper Returns

We definitely have less improper returns on component parts than what you do on a completely unitary package system. Refrigeration service engineers have the knowledge and experience to analyze a refrigeration system and to my knowledge we have not received a compressor that would operate if we just changed the relay or the overload.

In fact, we discontinued several years ago checking compressors when they are returned to us since our findings were such that the cost of inspection of such compressors was a waste of money.

It meant, too, that if for some reason a leak should occur in the system that this could be serviced in the field, thereby eliminating the extra cost of handling for everyone concerned.

Furthermore and probably the biggest benefit of all is to our customer after her five-year warranty has expired.

As an example let's say that a compressor failed in the eighth year. She doesn't have to buy a new evaporator, a new capillary

tube, and a new condenser, plus a compressor at a probable charge of \$100 or \$150. She needs only to buy the compressor which would probably cost \$50 to \$75 installed.

Our results have been so satisfactory that we have established that if a compressor should fail after the expiration of the five-year warranty with the customer's purchase of just the new compressor, we extend to her another five-year warranty on the compressor.

We have found that refrigeration service engineers working with our, or for our distributors and with our dealers have done a remarkable job for us by analyzing just what is wrong with a refrigeration system and correcting same on the spot, thereby reducing our service cost operation.

Furthermore, we are satisfied that we have placed service work on refrigeration products in its rightful place and that is in the hands of experienced people who live and breathe refrigeration morning, noon, and night and have the interest of their customers, whom they know personally, at heart.

Who are these people? To me they are the people who have sufficient interest to attend such conferences as are being held this week under the sponsorship of Air-Conditioning and Refrigeration Institute.

Then Why Not Change Parts of Hermetic Systems?

I hope you have reached a conclusion.

JORDON ADDS 3! to the most advanced line in Jordon history!



Be a Bonus Dealer!

OVER
**\$20,000
BONUS**
paid to Jordon Dealers
In 60 Days Alone!

Mail coupon below
to get your share

PLUS

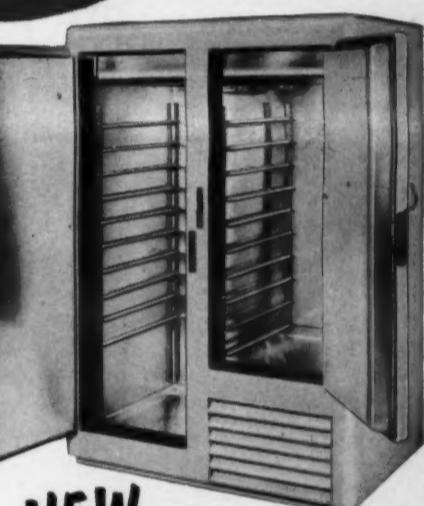
MORE WANTED MODELS!
MORE SIZES!
MORE EXCLUSIVE FEATURES!
MORE PROFITS FOR YOU!



Also manufacturers of "Duplex" D-20 combination refrigerator-freezer • Upright Freezers J-12, J-16, J-22 and CF-30 Deluxe • Chest-type freezers in all sizes • Room air conditioners J-50, J-75, J-100 • Dehumidifier DE-11

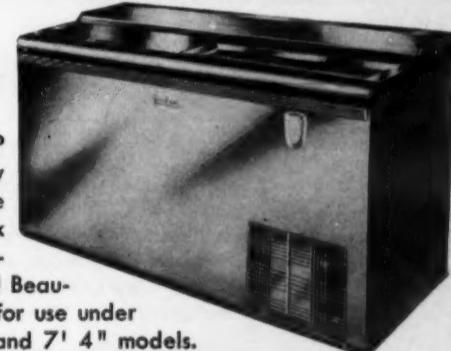
If it's JORDON, it's RELIABLE refrigeration!

CF-42 FREEZER. The most beautiful commercial freezer ever produced! Priced to give you the lion's share of the freezer business! Ideal for either front room merchandising or back room storage. Provides more freezer space in less floor space!



NEW

BAKER'S FREEZER WITH AUTOMATIC DEFROST... for freezing cake and pastry dough till ready to bake... for freezing baked goods and other food products till ready to sell! Forced air freezing system built into ceiling... allows maximum usable space!



NEW

FLAT TOP BEVERAGE COOLER... The only cooler in the lowest price range with an all-stainless steel work top and exclusive Jordon "Controlled-Flo" Cool Air Circulator! Beautifully finished front and back for use under bar or as serving counter. 5' and 7' 4" models.

Write for
complete catalog
of your "full-profit"
line of frozen Food
Merchandisers,
Wall Cases,
Reach-ins, Freezers
and Beverage
Coolers!

Jordon Refrigerator Co., Dept. N-5

7900 Tabor Road, Philadelphia 11, Penna.

Gentlemen: Yes, I'd like to know how I can make bigger profits as a Jordon dealer! Please send me complete information about the Jordon Bonus Plan and catalog.

Name _____ Title _____
Company _____
Address _____
City _____ Zone _____ State _____

NLRB Rules That Philadelphia Pipefitters Can't Force Employers To Assign Rigging Work to Them

WASHINGTON, D. C.—The National Labor Relations Board ruled recently that Philadelphia locals of the pipefitters' union are not lawfully entitled to force or require any employer in the Philadelphia area to assign the rigging work on any equipment to members of the locals rather than to members of the iron workers' union.

The decision was made in a jurisdictional dispute between Locals 420 and 428 of the United Association of Journeymen & Apprentices of the Plumbing &

Pipefitting Industry, AFL, and Riggers & Machinery Movers, Local 161, International Association of Bridge, Structural & Ornamental Iron Workers, AFL. Charges were filed by the latter local.

In its decision, the NLRB concluded that "there is a pattern of conduct by the Pipefitters which is nothing less than a continuing plan to effect a Pipefitters' monopoly of the disputed work in the Philadelphia area.

"We have illustrated that pattern with specific instances which

show the range of employers who have been subject to the Pipefitters' pressure.

"We do not believe that a determination limited to those particular employers would have the desirable deterrent effect on further aggressive action growing out of this jurisdictional dispute. Therefore . . . we will broaden our determination so as to protect all employers in the Philadelphia area from an unwarranted continuation of this jurisdictional strife.

"In so acting, we remain cognizant of the other media available to the parties for settlement of this dispute. . . . We do not intend to discourage the use of such media."

how to make hot sales prospects out of cold customers...



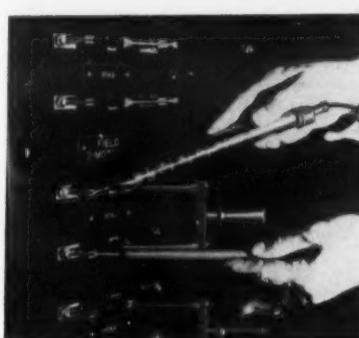
You'll melt sales resistance in a hurry with Ranco's new window air conditioner controls . . . just the ticket for modernizing old-fashioned window air conditioners not equipped with controls.

Offices and homes both offer you tremendous sales possibilities. These new controls prevent over-cooling . . . hold down humidity . . . maintain a "just right" indoor climate day and night. Get your share of this extra modernization business with Ranco's new A13-109 (3" differential), or A10-1564 (5" differential) control. Remember—whatever your control problem—it pays to see your Ranco wholesaler first. He has over 4,000 replacements—far more than available from any other source!

Ranco Inc.
COLUMBUS 1, OHIO
WORLD'S LARGEST MANUFACTURER OF REFRIGERATION CONTROLS

SLANTS ON SERVICE

"Slants on Service" is a "package" devised by the NEWS to meet the needs of readers in the service and contracting business.



Elwood Voltage Tester.

Tester Shows Line Voltages, Cycles

Servicemen faced with the problem of determining line voltage for an appliance, which can be a complex one in multiple dwellings, apartment houses, offices, and industrial plants where several voltages are apt to be present, may find a newly introduced voltage tester a useful addition to their tool kit.

Made by the Elwood Co. of Buffalo, the new tester is claimed to indicate whether a circuit is 120, 240, or 480 volts and to show whether the circuit is 25 or 60 cycles.

One probe of the tester has four built-in neon lamps. One lamp glows on conventional 120-volt circuits, two lamps on 240 volts, and three lamps on 480 volts.

The lamps flicker on 25 cycles but glow on 60-cycle current.

Fourth lamp is marked, "Danger 600 volts." It acts as an indicator of abnormal voltage such as a cross with the primary for the three conventional service voltages.

The manufacturer claims the tester will safely withstand voltages as high as 5,000 without exploding or producing a serious arc.

The device is said to be useful also in locating blown fuses and will not give an indication of a closed circuit because of capacitive coupling between the conductors of the circuit, it is claimed.

Neon lamps in the tester have a useful life of 3,000 hours, the manufacturer claims.

* * *

Discoloration of Oil Indicates Moisture

Discoloration of oil in a refrigeration system is an excellent indication of moisture in the system, according to John Spence, Hussmann service manager.

Oil should not discolor over years of service unless moisture is present, he says.

"If you think you've dried a 'Freon-22' system properly and put a good drier in the liquid line, and then later you find the oil discolored, obviously you didn't dry the system properly. You've got moisture in the system and you have to get it out," declares Spence.

* * *

Hermetic Changes Differ On Valve, Capillary Jobs

A different procedure is required when replacing a hermetic compressor on a system using an expansion valve and receiver than on one using a capillary tube, according to T. S. Pendergast, Tecumseh service sales manager.

"When a compressor is to be replaced on a system using an expansion valve and receiver, the compressor should be removed after the suction and discharge line valves are closed," he advises. "Attach an 'F-12' drum to the gauge port of the suction line valve and blow all of the oil out into a clean container."

"Check this oil for odor that would indicate a burned-out motor,

and for solids. Systems that have had a compressor fail due to a burned-out motor must be thoroughly flushed with a good solvent to remove acids and sludge.

"When replacing a compressor on a system with a capillary tube, attach a drum of anhydrous nitrogen to the gauge port of the discharge line valve, if any, or to the connection to the condenser; disconnect the suction line, and blow the entire oil and refrigerant charges into a bucket," Pendergast recommends.

"Draw a vacuum on the system, break the vacuum with 'F-12,' and recharge the system. Install the new compressor with the oil charge as it came from the factory."

Harvester Names Elliott As Sales Representative In Central Region

CHICAGO—International Harvester Co. has announced the appointment of D. C. Elliott as refrigeration sales representative for the company's central region, made up of portions of Illinois, Indiana, Michigan, Wisconsin, and Missouri.

Elliott replaces O. T. Anderson, who has been advanced to national sales duties in connection with other I-H products.

Starting his Harvester employment in 1935 as a warehouse helper in the Milwaukee sales office, Elliott has had a wide experience in the company's sales organization.

In 1946 he moved to the I-H general offices in Chicago for successive assignments in the education and merchandising fields. Since 1951 he has been assistant district manager at the Madison, Wis., and Broadview, Ill., sales offices.

Trane Transfers Knowles To Richmond, Va. Office

LA CROSSE, Wis.—The Trane Co. has announced the association of Robert S. Knowles with the Richmond, Va., sales office as a sales representative.

Knowles, an engineering graduate of the University of California, has been associated with Trane since 1946. He was formerly a sales department manager in the firm's main office in La Crosse, Wis.

Buy Peerless FOR PERFORMANCE

DRIP-PUMP

for

Condensate

on Air

Conditioners



The Peerless Drip-Pump solves the troublesome drainage problem—on air conditioners, coolers, refrigerators and other machines where condensate is present—by eliminating hazardous gravity drains altogether! The Drip-Pump lifts condensate up and out, overhead . . . saves valuable space.

Illustration shows Model DP-2 high capacity high lift pump for air conditioner applications. Also available is Model DP-1 packless centrifugal type pump, driven by "flea-power" motor . . . the ideal pump for use for dome, unit or flash coolers. Both models are ruggedly built for long, hard service; easily and quickly installed. Write for full information.

Peerless of America, Inc.

1501 No. Magnolia Avenue
Chicago 22, Illinois, U.S.A.

When it comes to saving money, you just can't beat a new Chevrolet truck. Here are two good reasons why this is true—

YOU SAVE AT THE START

In fact, your savings start the moment you close the deal for your new Chevrolet truck. That's because Chevrolet is America's lowest-priced line of trucks. And yet, no other truck at any price offers you all the new features and advantages you get in these great new Chevrolet trucks.

YOU KEEP RIGHT ON SAVING

You save on operating costs with thrifty new high-compression power . . . on upkeep costs with new chassis ruggedness. And you get these savings

with every new Chevrolet truck—from light delivery models to heavy-duty haulers. In addition, Chevrolet trucks traditionally put you dollars ahead at trade-in time.

Aren't these the kind of savings you want in a truck? Stop in and talk it over with your Chevrolet Dealer soon. . . . Chevrolet Division of General Motors, Detroit 2, Michigan.



MOST TRUSTWORTHY TRUCKS
ON ANY JOB!

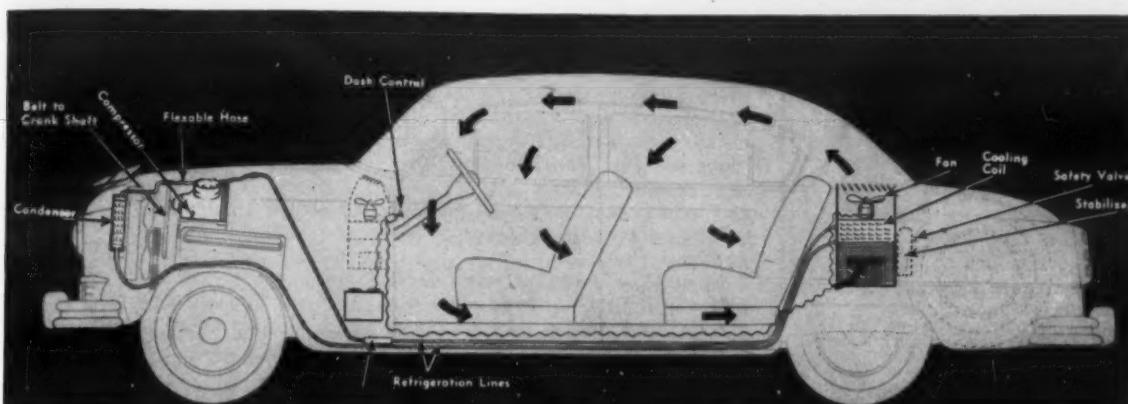
THREE GREAT ENGINES—The new "Jobmaster 261" engine* for extra heavy hauling. The "Thriftmaster 235" or "Loadmaster 235" for light-, medium- and heavy-duty hauling. **NEW TRUCK HYDRA-MATIC TRANSMISSION***—offered on 1/2-, 3/4- and 1-ton models. Heavy-Duty SYNCHRO-MESH TRANSMISSION—for fast, smooth shifting. **DIAPHRAGM SPRING CLUTCH**—improved-action engagement. **HYPOID REAR AXLE**—for longer life on all models. **TORQUE-ACTION BRAKES**—on all wheels on light- and medium-duty models. **TWIN-ACTION REAR WHEEL BRAKES**—on heavy-duty models. **NEW RIDE CONTROL SEAT***—eliminates back-rubbing. **NEW, LARGER UNIT-DESIGNED PICKUP AND PLATFORM STAKE BODIES**—give increased load space. **COMFORTMASTER CAB**—offers greater comfort, convenience and safety. **PANORAMIC WINDSHIELD**—for increased driver vision. **WIDE-BASE WHEELS**—for increased tire mileage. **BALL-GEAR STEERING**—easier, safer handling. **ADVANCE-DESIGN STYLING**—rugged, handsome appearance.

*Optional at extra cost. Ride Control Seat is available in standard cabs only. "Jobmaster 261" engine on 2-ton models, truck Hydra-Matic transmission on 1/2-, 3/4- and 1-ton models.

CHEVROLET ADVANCE-DESIGN TRUCK FEATURES

DUAL-SHOE PARKING BRAKE—greater holding ability on heavy-duty models. **NEW, LARGER UNIT-DESIGNED PICKUP AND PLATFORM STAKE BODIES**—offers greater comfort, convenience and safety. **PANORAMIC WINDSHIELD**—for increased driver vision. **WIDE-BASE WHEELS**—for increased tire mileage. **BALL-GEAR STEERING**—easier, safer handling. **ADVANCE-DESIGN STYLING**—rugged, handsome appearance.

"Check this oil for odor that would indicate a burned-out motor,



COMPONENTS of the new Kauffman auto air conditioning system and their location within the car are shown in this phantom view. Large arrows indicate direction of air flow.

Kauffman Offers Simplified Auto Air Conditioner

ST. LOUIS—Kauffman Air Conditioning Co. here announced recently that it is manufacturing an "entirely different" and "simplified" automobile air conditioning system.

In this system, the company emphasized, a three-position control switch on the dash panel permits delivery into the car of 200, 350, or 450 cu. ft. of cool air per minute.

Describing operation of the system, Kauffman said: "The air is drawn from the car through special filters into our own specially designed V type cooling coils and discharged by one fan that's specially designed, consumes only 7 amps at 6 volts." It asserted that there's "no pulling down of batteries."

"And," the company declared, "no matter how slow or how fast you drive, the temperature of the gas in the cooling coils is always the same, through the use of specially designed stabilizers."

The system provides complete air circulation, according to the manufacturer. A cool-air adjust-

able discharge grille is located on the package shelf. Refrigerated air moves along the upper part of the car's interior and travels back along the floor to be drawn under the base of the rear seat and then through aluminum filters into the cooling coils, it was explained.

Kauffman pointed out that if space permits, the air handling unit can be located directly under the glove compartment of the car instead of in the trunk.

In this case, it was noted, the entire glove compartment, except the door, must be removed. Proper space must be allowed to be sure of front-type installation, the company said, and cut out must be made in the top of the dash panel for proper installation of the distribution grille.

"Freon-12" is the refrigerant used.

Another feature stressed by the company is that a safety valve is built into the system "to prevent excessive high pressures from causing damage to car, system, or passengers."

The company reported that it

employs two types of compressors: 2-cylinder, 2-hp. units for smaller cars; 4-cylinder, 3-hp. units for large cars.

All component parts of Kauffman auto air conditioners "are arranged for quick, easy servicing, or adjustment that might be necessary," the company said, adding that the condenser is manufactured in its own shops.

The company claims the system is compact and simple to install and "permits transfer as often as you change cars, giving you long time auto air conditioning at low cost."



Moses Moves to Carrier Home Office Position

Westinghouse Division Names Rochester Outlet

SYRACUSE, N. Y.—Jack Moses, construction engineer at the Atlanta district office of Carrier Corp., has been named assistant manager of the construction and service department at the Syracuse home office, it was announced recently by John H. Koonce, technical manager of the Machinery and Systems Div.

Moses will be given the specific assignment, in addition to his regular duties, of handling the service technical group of the department.

Urban H. Johnson, present assistant manager, will become acting manager while Manager George T. Baum carries out special assignments in connection with Carrier's construction program.

Moses, who joined Carrier in 1947 after receiving his degree in mechanical engineering from Georgia Institute of Technology, spent three years as an engineering officer in the U. S. Navy during World War II.

ROCHESTER, N. Y.—Van As & Gottemeier, Inc., has been awarded a franchise as wholesale distributor for Westinghouse "Unitaire" conditioners and the "Precipitron" electronic air cleaner, W. B. Cott, sales manager of the Westinghouse Electric Corp.'s Air Conditioning Div., announced recently.

Headed by O. W. Van As and A. H. Gottemeier, the firm has been associated with the ventilating and air conditioning business in Rochester since 1948, although both partners have had many years of experience in the industry. The company serves Rochester, Elmira, Binghamton, Utica, Syracuse, Watertown, and surrounding towns.

Gets Station A. C. Contract

GREENSBORO, N. C.—Air Conditioning Corp. here has been awarded a contract for air conditioning the new \$500,000 home of WFMY-TV.

KNOW THE NEW MOTOR PUMP

and Find Out How it can help you do a better job of every installation—cut costs—increase over-all profits, with:

IMPROVED HYDRAULICS:

New design and construction features that give improved performance over its entire range of heads and pressures.

GREATER SPACE SAVINGS:

More compact, this new Model fits anywhere, does the maximum job in a minimum space.

LIGHTER WEIGHT:

Improved design makes the new KRVSA the top performer in the field.

You should know more about Motorpumps; to get the whole story, mail the coupon to:

Ingersoll-Rand
11 Broadway, New York 4, N. Y.
MOTOR PUMP

Gentlemen:
I would like to know more about how the Motorpump line can improve my jobs, help cut my costs. Send me details.

NAME _____
TITLE _____
COMPANY _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____
9-62

McQuay Appoints Myers To California Territory

MINNEAPOLIS—H. Blake Thomas, vice president in charge of sales of McQuay, Inc., announces the appointment of J. L. Myers of San Francisco, as the new heating and air conditioning products sales representative in the California territory.

Myers represented the Farr Co. in northern California as a manufacturers' agent for several years.

Carolina Sales Corp. Will Distribute UsAirco Line

MINNEAPOLIS—In an expansion of its merchandising facilities in the southeast, the United States Air Conditioning Corp. has appointed the Carolina Sales Corp. of Greenville and Columbia as distributor for 82 counties of eastern North and South Carolina, it is announced by L. P. Hanson, UsAirco vice president in charge of sales.

Carolina Sales, which recently marked its 25th anniversary, was founded in 1929 in Greenville, N. C. as a distributor for electric refrigerators. Headed by James T. Little, president, and Ed. E. Rawl, executive vice president, it now maintains a branch office in Columbia, S. C., and is staffed by 61 employees.

UsAirco sales will be under the direction of F. H. Worsley, sales manager of the parts and commercial department in Greenville, Lloyd Moody, assistant sales manager in Columbia, and Paul Boger, manager of the Columbia branch.

Now it's **LAU** The Quality Name in

Belt Drive Blowers

New Series "A" Assembly . . . with many exclusive, patented features. Wide range of sizes.



What's YOUR Air-Handling Problem?

Air-handling equipment requires the uniform precision, experience and know-how such as you'll find at the LAU organization. If you design or build equipment for

- Air Conditioning
- Heating, Ventilating
- Refrigeration
- Oil Burning

—you can profit from the experience at LAU!

Direct Drive Blowers

Complete blower "package" . . . compact, inexpensive. Lowered costs with excellent performance.



Blower Wheels

LAU Spun Wheels, Weld Wheels and Riveted Wheels. Superior in design. A size for every need.



Bearings-Pillow Blocks

LAU designed and manufactured, self-aligning pillow blocks . . . Series "A" and Lau-Pak Bearings.



Producers of Blowers,
Blower Parts, Fans and
Component Parts for all
Air-Handling Needs

Write for Blower Catalog 707

LAU Steel Pulleys

Constant and variable speed pulleys available in popular sizes. Also cast iron pulleys, 11" to 14" dia.



THE LAU BLOWER COMPANY • Dayton 7, Ohio

World's Largest Manufacturers of Air Conditioning Blowers

Refrigeration Problems and their solution by Paul Reed

For Service and Installation Engineers



Paul Reed

Spring Inspection (1)

On March 21, Earth reached the end of the first quarter of its yearly trip around the sun, and winter officially gave way to spring. In some parts of the South, the trees, grass, and flowers gave evidence of spring but in the North, the first day of spring was just another date on the calendar.

Nevertheless, the time has come when air conditioning equipment, idle during the winter months, must be made ready to go back to work again, some of it to operate continuously for months. Commercial and industrial refrigeration equipment even, that has been laying along with little to do during cold weather, will soon have to strain itself to carry the heavy hot weather loads.

Weaknesses induced by idleness or hidden by light duty, will be-

come apparent on heavy duty service. Motors will burn out, belts will slip or break, compressors will fail to carry the load. Service calls will soon begin to pour in on systems that got by with dirty condensers, weak motors, poor pumping compressors, insufficient refrigerant, expansion valves that were sticky or improperly adjusted, iced coils, stopped filters, and the many other things that show up when the going gets rough.

CUSTOMER NOT LIKELY TO ORDER INSPECTION VOLUNTARILY

The customer is just beginning to recover from the shock of his income tax, his sales volume must be maintained, collections are slow, good help is hard to get and keep. He has troubles, and he is apt to wait until the first hot day to call a serviceman to start up the air conditioning; and he is exceptional if he takes any steps to prepare his refrigeration equipment for heavy summer duty.

Most customers take their re-

frigeration for granted, and pay little or no attention to it until something happens and they are faced with the sudden catastrophe of no refrigeration. There they need help and they need it badly, and right now. What's more, they are not interested in why you can't come at once. The other fellow's troubles are not as bad as theirs. They are no more selfish than anyone else, nor more demanding than you would be if you were in their shoes.

Now is the time to remind him that his equipment should be gone over and prepared for the long hot months and their heavy loads—the months when breakdowns and interruptions of service of his equipment are more likely, the less bearable, and the most costly to his business.

If he is a good businessman he will welcome suggestions that prevent disruption of the smooth functioning of his business and that will save him money. Moreover, he will appreciate your interest and you will assure your-

self of his future business, provided that you do a real preventative job. Be thorough; go over everything carefully.

If there is any reasonable doubt, be on the safe side; repair or replace the part. You have told him that a good inspection, cleaning, and going over now will prevent troubles later. He is going to expect just that.

In spite of how well you check and repair his equipment in the spring, some hidden weakness may show up, so he may not be entirely free of trouble during the summer. Nevertheless, if you have been thorough, there should be no major breakdowns and no serious or expensive interruptions in the functioning of his equipment.

PROVE IT NEXT FALL

Remind him next fall. Drop in around Sept. 21 (the official end of summer). Show him from your service records the difference in grief during the past summer and previous summers. His records will show him that in actual outlay for service, including the spring check up, he has saved money. Even if the service expense for this first year's program of preventive maintenance is higher than that of previous years, it has still been profitable for him if he has reduced the breakdowns that interrupt his normal business. Those interruptions are hard to directly measure in dollars and cents. Discolored meats, withered vegetables, warm milk or beverages, and soft ice cream drives away customers, and that is the most expensive thing that can happen to a merchant—losing customers.

GET PAST HISTORY OF THE INSTALLATION

Before starting a spring inspection, it is advisable to talk to the customer, or in large businesses, the maintenance engineer or other individual who has direct control over the refrigeration or air conditioning equipment, whether he is responsible for its successful operation or not.

If he has kept records of maintenance, such as oiling, changing filters, defrosting, etc., or a log of temperatures, ask to either see them or for the information. These records may reveal some very interesting things: such as the possible relationship between complaints of the products not being cold enough and changes in control, settings, defrost intervals, refrigerator loading, etc.; and between complaints of discomfort in air conditioned spaces and weather data, interval between changes of filters, changes in settings of temperature or humidity controls, etc.

REVIEW YOUR OWN RECORDS

If you have previously serviced the installation, review your own service record and compare it with the customer's record or his recollection of how the equipment has been operating for the past year. Observe his comments carefully, for satisfying him may not be a matter of merely mechanical repairs but of adjustment of controls to give him just the conditions that he wants.

If you feel that he is asking for temperatures and humidity conditions that are not to his best interests, or for which the equipment was not designed, discuss it with him. He may have some wrong ideas, and if you can show him why, for example, too low a temperature may cause excessive drying and discoloring of the meat, you will have done him a service.

Remember, however, that although you may know much more than he about the mechanical end of the installation, he may, and certainly he should, know more than you about the proper temperatures, humidity, air circulation, and other conditions needed for his particular business.

Even when you disagree with him, don't argue. Try to help him, but, after all, it is his equipment and his money. It is much better

to lose the argument than to lose the customer.

Insofar as possible, learn his business. Some of the most successful servicemen are those who know the product to be refrigerated and what the best conditions are for its preservation. The ideal serviceman for beer equipment would not only be fully familiar with the beer cooling equipment, but he would also know how the glasses should be washed and cooled, and other matters that the tavern keeper should know.

CUSTOMERS AS FRIENDS

Are your customers your friends also? No reason why they should not be; and there are many reasons why they should be. Your interests are identical—keeping his equipment in good mechanical condition, and adjusted to maintain conditions that are best for his business.

One of the most successful servicemen the author has ever known started with a few tools, the capacity to work long hours, a good mind and eagerness to learn, and knowledge of his customers needs. Most important though, he liked people; and, of course, people liked him.

When after a full life he died, he left a prosperous business, a surprisingly big bank account, and a host of friends. The floral display at his funeral was unusually large, and a large percentage of the wreaths and baskets of flowers were from his customers. He was truly a successful man.

(To Be Continued)

JUST ASK US

For "easy-to-get" product information . . . use coupon on "What's New" page.

LARKIN MEANS EFFICIENT DESIGN . . .

LARKIN COOLING TOWER

All Larkin refrigeration and air conditioning equipment is designed to give peak performance at low operating costs, whatever the requirements. The same organization that produced the original, patented cross-fin coil maintains a constant effort for better, more efficient design. Just one more reason why Larkin leads.

Manufacturers of the original Cross-Fin Coil • Humi-Temp Units • Frost-O-Trol Hot Gas Defroster • Evaporative Condensers • Cooling Towers • Air Conditioning Units and Coils • Direct Expansion Water Coolers • Heat Exchangers • Disseminator Pans.

WATCHDOG OF THE NATION'S FOOD SUPPLY

LARKIN COILS
519 MEMORIAL DR., S.E. • ATLANTA, GA.

IDEAL
Speed-Freeze
PRODUCTS

BEVERAGE COOLERS AND
INSTANTANEOUS DRAFT
BEER COOLERS.
(With Refrigerated Faucets)

WRITE
IDEAL COOLER CORPORATION
2953 EASTON AVE. • ST. LOUIS 6, MO.



HINGED PAN quick and easy access

Praised for years by installation and service men.

Built-in Heat Exchanger

NO RUSTING — polished aluminum casing

WRITE NOW
FOR
BULLETIN C-192-7

COOLMASTER
2,500 to 60,000 BTU's Per Hour

SMALL CURVETTE
800 to 5,600 BTU's Per Hour

RADIAL
2,500 to 23,000 BTU's Per Hour

KAY-TEE
2,500 to 12,000 BTU's Per Hour

KRAMER TRENTON CO. • Trenton 5, N.J.

Room Conditioner Ad Standards--

(Concluded from Page 1, Col. 3) to designate cooling capacities; claims of fictitious values; and use of deceptive layouts suggesting that low-quoted prices applied to higher-priced units.

Also condemned as misrepresentations were listing of prices of previous years' models without indicating that they were not current models, and advertising brand name units which were not available to shoppers answering the ads.

USE OF WORD 'TON'

Regarding use of "ton" to denote unit capacity, the BBB said manufacturers have generally indicated the sizes of their units in printed material supplied to dealers in terms of horsepower rating of the units' compressors.

Dealers, the bureau asserted, have generally converted such horsepower terms into tons to the extent that consumers have been educated on the basis of a misnomer.

The BBB standards call for the size of a room air conditioner to be indicated only by the horsepower rating of the compressor, and the cooling capacity only by British thermal units. Ads should tell the year, make, capacity, and model number of units, according to the rules.

One standard states: "If an air conditioning unit illustrated is not the model to which the copy or featured price applies, the selling price and model number of the illustrated unit shall be stated in close proximity to the illustration in sufficiently bold type to avoid deception."

It is also suggested that "when reference by price or otherwise is made to units other than that illustrated, the phrase 'not illustrated' shall be included in the copy." When selling price or prices of specific units are used, size and capacity are to be indicated.

ON USE OF DECEPTIVE TRADE-IN ALLOWANCES

The standards prohibit the use of deceptive trade-in allowances, fictitious list prices, false and exaggerated comparative price or savings claims, misleading free offers, and bait advertising. Regarding comparative-price advertising, the standards state:

"Prices with which actual selling prices are compared in advertising should be those which prevailed in the advertiser's own store, or which prevailed in competitors' stores at or just prior to the time of the advertising, unless another date is specified."

The BBB standards further declare: "Advertising shall make clear any extra charge for featured equipment or service. When

advertised price does not include any equipment or service necessary to installation and operation, the price shall be accompanied in conspicuous type by some such statement as 'Plus Installation'."

The standards also require that performance claims "be evidenced with proven facts, with the evidence readily available upon request"; that descriptions of woods conform with "Name of Woods" rules of the Federal Trade Commission; and that warranties specify whether they apply to parts or labor and who is making the guarantee if not the seller.

Elect Pickett Vice Pres. Of Illinois Engineering

CHICAGO—C. A. Pickett has been elected vice president of Illinois Engineering Co. here, manufacturer of steam heating and power specialties and control systems.

Pickett has served as general manager of Illinois Engineering since the company was acquired by American Air Filter Co., Inc. in 1953.

John Hellstrom, vice president and director of sales of American Air Filter, and Pickett were also elected directors of Illinois Engineering.

Pickett has served companies in the American Air Filter group since 1921, when he became a manufacturers' agent for Herman Nelson heating and ventilating products in St. Louis.

He served Herman Nelson successively as manager of the St. Louis office, manager of the Chicago office, general manager of the Autovent Fan & Blower division, as well as midwestern regional manager.

Following the 1950 merger of Herman Nelson Corp. with American Air Filter, Pickett was named Pacific region sales manager of American Air Filter.

Wagner Electric Moves Branch to El Segundo

ST. LOUIS—Wagner Electric Corp. announces a new location for its Los Angeles branch office and warehouse operations. The new building will accommodate Wagner's automotive and electrical branch sales and service operations in southern California, Arizona, and part of Nevada.

The modern new plant at 614 Lairport St. in El Segundo contains 22,500 sq. ft. of floor space. It provides parking area, truck handling facilities, and a spur track for direct rail service. L. G. Tandberg is manager of the electrical branch office for the company.

Westinghouse Names

Fichter to New Post

PITTSBURGH—Robert M. Fichter has been appointed assistant to the general sales manager of consumer products for Westinghouse Electric Corp., it was announced here recently. The appointment was announced by Victor D. Kniss, general sales manager, consumer products.

Since January of this year, Fichter had been sales manager of refrigeration specialties for the Westinghouse Electric Appliance Div. at Springfield, Mass.

Fichter joined Westinghouse in 1936 and has held various sales, sales promotion, and sales training positions with the company and its distributor organization since that time.

For two years prior to his Springfield assignment, he was sales promotion manager for all consumer products at the Westinghouse headquarters here.

Cedar Rapids Dealers Elect Close President

CEDAR RAPIDS, Iowa—R. E. Close of Checker Electric Co. is the new president of the Electrical Appliance Dealers Association of Cedar Rapids.

Other officers elected recently are: Vice president, John Kehrer, Kehrer's, Wheatland, Iowa; secretary, Sam Becker, Kratchmer's; treasurer, Dan Robb, Robb's Appliance.

This group was addressed at its April meeting by R. D. O'Callaghan, National Appliance & Radio-TV Dealers Association regional chairman for the state of Iowa, and Earl Holtz of Beaverdale Electric Co., NARDA vice chairman, both of Des Moines. O'Callaghan is the president and Holtz the vice president of the Central Iowa Radio & Appliance Dealers Association.

O'Callaghan outlined a program for the establishment of a statewide retailer organization in Iowa and urged the retailers to continue their present sound practices of limiting their merchandise to a restricted number of lines and putting intensive sales effort behind those lines.

O'Callaghan and Holtz were introduced by A. W. Bernsohn, NARDA managing director.

Dayton Department Store Being Air Conditioned

DAYTON—Air conditioning equipment is being installed on all three floors of Wilson's Department Store here, A. M. Bremer, vice president and general manager, announced. About \$25,000 is being spent in an improvement program, the announcement said.

Philadelphia Appliance Sales--

(Concluded from Page 1, Col. 4) ter sales were 11,605 units as compared with 3,897 in 1953.

They also reported a 38% gain in electric range sales for the month and a 1% rise in clothes dryers. Water heater sales fell just short of last year. Dishwasher sales for March were down 5%

Appliance	March, 1954	March, 1953	Quarter, 1954	Quarter, 1953
Air Conditioners	5,144	2,207	11,605	3,897
Refrigerators	5,676	6,020	16,547	17,205
Home Freezers	744	1,273	1,859	4,005
Clothes Dryers	665	660	2,375	2,145
Dishwashers	351	369	1,126	1,034
Ranges	1,511	1,092	4,519	3,537
Water Heaters	765	767	1,957	2,249

Sierk Joins Whirlpool Sales Promotion Staff

Mills Industries--

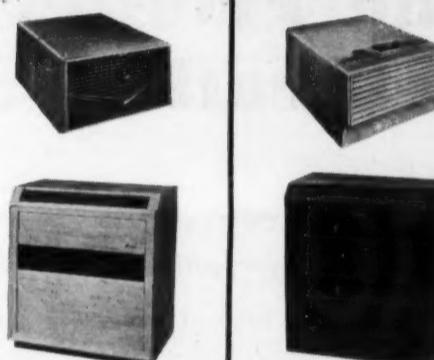
(Concluded from Page 1, Col. 2) Koster, assistant secretary and assistant treasurer.

The following were named directors: William P. Ronan, Harold S. Russell, Matt O. Blesius, Charles T. Scott, Frank E. Reilly, Dooley, and Tregenza.

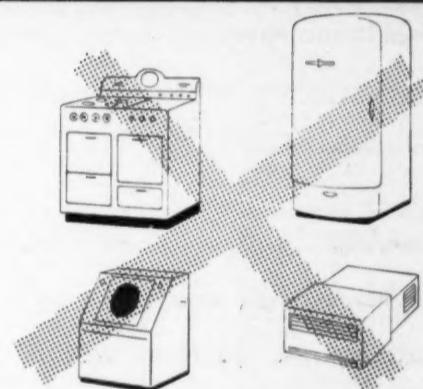
The company, established in 1889, will be continued with the same corporate name and its line of beverage coolers, vendors, and continuous ice cream making machines extended.

The management also plans to release for early production a number of new products.

For a COMPLETE line . . .



instead of a side line,



REMINGTON'S new Room Air Conditioners

Why lose air conditioner sales because you don't have the right size or type unit for your prospect's needs.

You can have the right size and type air conditioner for every room at a price for every purse when you handle Remington.

Only Remington offers the most complete line of room air conditioners in the world. And only Remingtons are built by specialists who do nothing else but make the world's finest room air conditioning units.

All these Remington units are Tropic-Tested and proved. All have features available in no other air conditioner at any price.

Now is the time to get the details on the unique Remington Franchise—and get in on Remington's new sensational FREE pre-season sales promotion program.

HEALTH and COMFORT



DIVISION OF
REMINGTON CORP.

11-10 Willey St.
Auburn, N. Y., U. S. A.

HERE'S REFRIGERATION AT ITS *Very Best* The Famous PUFFER-HUBBARD LINE



Complete Line of Dough Retarders, Baked Goods Freezers, Walk-In Coolers Also Available.

See Your Nearest Dealer or Write Factory for Complete Illustrated Literature

PUFFER-HUBBARD MFG. CO., GRAND HAVEN MICHIGAN

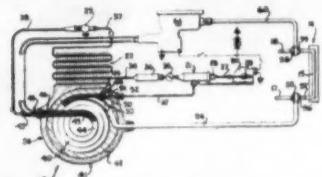
EXPORT OFFICE — Puffer-Hubbard International, 440 Lafayette St., New York City — Cable "Manfesup"



PATENTS

Week of January 26 (Concluded)

2,667,045. COOLING SYSTEM FOR AUTOMOTIVE VEHICLES. Chester A. McCarty, Palm Springs, Calif. Application July 28, 1951. Serial No. 239,098. 3 Claims. (Cl. 62-125.)



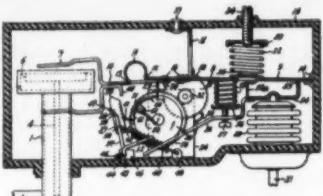
1. The combination with the evaporator of a closed refrigerating system and a closed secondary fluid conducting system containing a secondary fluid transmissible to a heat exchange coil, of means for effecting transfer of the cooling effect from said evaporator to said secondary fluid, comprising a drum-like housing, a pair of coaxial tubes spirally coiled within said housing from an inner convolute substantially centrally of said housing to an outer convolute spaced inwardly from the inner side of the peripheral wall of said drum-like housing, the inner one of said pair of coaxial tubes constituting the evaporator coil of said closed refrigerating system, and the outer tube of said pair of coaxial tubes communicating with said secondary fluid system for transferring the cooling effect of said evaporator coil to said secondary fluid system.

WHY WAIT?

Get your new product info pronto. Use coupon on "What's New" page this issue.

Week of February 2

2,667,753. AUTOMATIC DEFROST CONTROL. Charles S. Grimshaw, Erie, Pa., assignor to General Electric Co., a corporation of New York. Application Dec. 19, 1951, Serial No. 262,446. 12 Claims. (Cl. 62-2.)

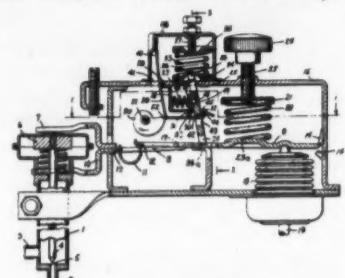


1. A refrigerator control comprising a pivoted operating arm movable between two positions for starting and stopping refrigeration at predetermined maximum and minimum temperatures, a temperature-responsive element for effecting movement of said arm, a biasing spring engaging said arm for opposing said element, a pivoted interfering member movable between a first position wherein said member acts as a stop for said arm and a second position wherein said member does not obstruct movement of said arm, said member including a roller at one end thereof for engaging said arm, a cam engaging said member for affording movement of said member between said first and second positions, and means actuated at a predetermined abnormally high maximum temperature for shifting said member from said first position to said second position to terminate opposition by said member to movement of said arm.

2,667,754. AUTOMATIC DEFROST CONTROL. Charles S. Grimshaw, Erie, Pa., assignor to General Electric Co., a corporation of New York. Application Dec. 19, 1951, Serial No. 262,447, 12 Claims. (Cl. 62-2.)

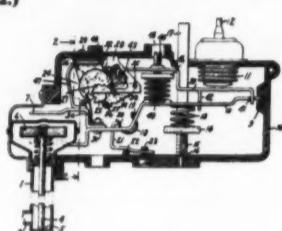
1. A refrigerator control comprising a pivoted operating arm movable between two positions for starting and stopping refrigeration at predetermined maximum and minimum temperatures, a temperature-responsive element for effecting movement of said arm, a biasing spring engaging said arm for opposing said element, a rotatable structure including a cam and a ratchet, a pawl mounted on said arm and engaging said ratchet for rotating said cam upon movement of said arm to its refrigeration-starting position, said cam having a recess in the periphery thereof, a pivoted lever including a roller, a second spring for biasing said lever to urge said roller into engagement with the periphery of said cam whereby said roller rides on the periphery of said cam during normal operation, said roller being receivable within said recess after predetermined rotation of said cam for blocking further movement of said rotatable structure, the engagement of said pawl with said ratchet preventing movement of said arm to its refrigeration-starting position when further movement of said cam is prevented by engagement of said roller with said recess whereby a defrost period is initiated, and means dependent upon a predetermined abnormally high temperature of said temperature-responsive element for engaging and shifting said roller out of said recess to again afford movement of said ratchet whereby said defrost period is terminated.

said element, an interfering member movable between a first position wherein said member opposes movement of said arm and a second position wherein said member does not oppose movement of said



1. A refrigerator control comprising a latch for engaging said member, means for moving said latch to shift said member to its first position, and means for biasing said member toward its second position.

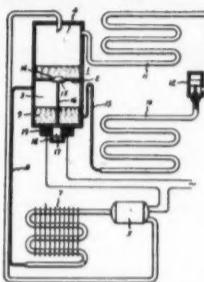
2,667,755. AUTOMATIC DEFROST CONTROL. Charles S. Grimshaw, Erie, Pa., assignor to General Electric Co., a corporation of New York. Application Dec. 19, 1951, Serial No. 262,448, 9 Claims. (Cl. 62-2.)



1. A refrigerator control comprising an operating arm movable between two positions for starting and stopping refrigeration at predetermined maximum and minimum temperatures, a temperature-responsive element for effecting movement of said arm, a biasing spring engaging said arm for opposing said element, a rotatable structure including a cam and a ratchet, a pawl mounted on said arm and engaging said ratchet for rotating said cam upon movement of said arm to its refrigeration-starting position, said cam having a recess in the periphery thereof, a pivoted lever including a roller, a second spring for biasing said lever to urge said roller into engagement with the periphery of said cam whereby said roller rides on the periphery of said cam during normal operation, said roller being receivable within said recess after predetermined rotation of said cam for blocking further movement of said rotatable structure, the engagement of said pawl with said ratchet preventing movement of said arm to its refrigeration-starting position when further movement of said cam is prevented by engagement of said roller with said recess whereby a defrost period is initiated, and means dependent upon a predetermined abnormally high temperature of said temperature-responsive element for engaging and shifting said roller out of said recess to again afford movement of said ratchet whereby said defrost period is terminated.

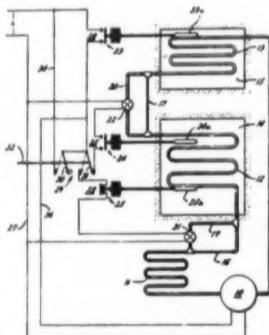
eration-starting position, said cam having a recess in the periphery thereof, a pivoted lever including a roller, a second spring for biasing said lever to urge said roller into engagement with the periphery of said cam whereby said roller rides on the periphery of said cam during normal operation, said roller being receivable within said recess after predetermined rotation of said cam for blocking further movement of said rotatable structure, the engagement of said pawl with said ratchet preventing movement of said arm to its refrigeration-starting position when further movement of said cam is prevented by engagement of said roller with said recess whereby a defrost period is initiated, and means dependent upon a predetermined abnormally high temperature of said temperature-responsive element for engaging and shifting said roller out of said recess to again afford movement of said ratchet whereby said defrost period is terminated.

2,667,756. TWO-TEMPERATURE REFRIGERATION SYSTEM. Leonard W. Atchison, Erie, Pa., assignor to General Electric Co., a corporation of New York. Application Jan. 10, 1952, Serial No. 265,811. 7 Claims. (Cl. 62-3.)



1. A refrigerating system comprising a refrigerant reservoir, a header located above said reservoir, a refrigerating unit supplying refrigerant to said reservoir and exhausting refrigerant from said header, refrigerant evaporating means, one side of said refrigerant evaporating means being connected to said reservoir below the normal level of a liquid reserve therein, the other side of said refrigerant evaporating means being connected to said header, means providing communication between said reservoir and said header, a solenoid-operated valve controlling said communication between said reservoir and said header, and control means for said solenoid-operated valve operated in response to the operation of said refrigerating unit to effect the operation of said valve to close said communication during operation of said refrigerating unit thereby to permit an accumulation of pressure in said reservoir and the prompt supply of refrigerant therefrom, and said control means effecting the operation of said solenoid-operated valve to open said communication during idle periods of said refrigerating unit thereby to permit drainage of liquid refrigerant from said header into said reservoir and effect the equalization of pressure between the high and low pressure sides of the system.

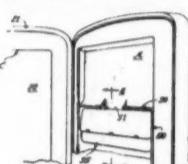
2,667,757. PLURAL TEMPERATURE REFRIGERATION SYSTEM. Malcolm G. Shoemaker, Doylestown, Pa., assignor to Philco Corp., Philadelphia, Pa., a corporation of Pennsylvania. Application Feb. 7, 1952, Serial No. 270,325. 3 Claims. (Cl. 62-3.)



1. In a series-flow refrigeration system, refrigerant circulating means, first and second series-connected evaporators, a pair of restrictors one of which is disposed between said circulating means and said first evaporator and the other of which is disposed between said first and second evaporators, and apparatus providing, selectively, either for condensation of gaseous refrigerant within said first evaporator and consequent heating of the

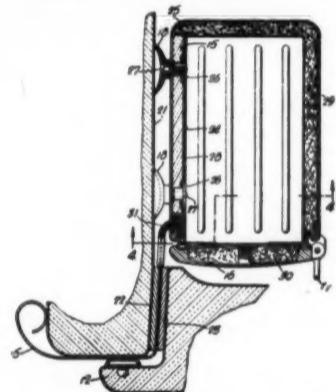
same with continuance of normal refrigeration within said second evaporator, or for modulation of the refrigerating temperature of said first evaporator, said apparatus comprising: a pair of conduits through which refrigerant may flow, one conduit being arranged to by-pass the restrictor which is disposed between said circulating means and said first evaporator, and the other conduit being arranged to by-pass the restrictor which is disposed between said first and second evaporators; and means including a first valve device adapted to control flow of refrigerant through said one conduit, said first valve device being effective, when opened, to cause gaseous refrigerant flowing from said circulating means to by-pass said first restrictor only and to flow into said first evaporator through said one conduit, whereby to effect condensation of gaseous refrigerant within said first evaporator, said means further including a second valve device adapted to control flow of refrigerant through said other conduit, said second valve device being responsive to predetermined temperature conditions at said first evaporator to move to open position and to cause flow of refrigerant through the said other conduit by-passing said second restrictor only, whereby to modulate the temperature of said first evaporator.

2,667,758. EGG STORAGE COMPARTMENT FOR REFRIGERATORS. Raymond M. Tenney, Wilmette, Ill., and James R. Hornaday and Donald H. Beves, North Muskegon, Mich., assignors to Borg-Warner Corp., Chicago, Ill., a corporation of Illinois. Application April 11, 1951, Serial No. 220,472. 6 Claims. (Cl. 62-89.)



1. In a refrigerator having a food compartment, a door therefor and a liner for said door, an egg storage compartment incorporated in said door comprising the combination of a chamber provided with an opening, said chamber being defined by a top wall, a rear wall, and a pair of side walls, each of said walls forming an integral part of said liner of the door, a shelf-like structure removably carried by said walls, said shelf-like structure having a front wall and a second wall defining a bottom wall of said compartment and a second wall adapted to partially enclose said opening, and a tray removably and hinged carried by said shelf-like structure, said tray including a wall adapted to provide a closure means for said opening, and means arranged whereby circulated air may flow through said compartment.

2,667,759. REFRIGERATOR APPARATUS. Ernest Harold Brown, Binghamton, N. Y. Application July 25, 1952, Serial No. 300,931. 4 Claims. (Cl. 62-89.)



1. In a refrigerator including a refrigerated compartment having a door-closed opening and a breaker strip thereabout, a thermally insulated auxiliary compartment within said refrigerated compartment, and heat transfer means extending from said auxiliary compartment through said door opening and across said breaker strip to the exterior of said cabinet for transferring heat from the outside to said auxiliary compartment, whereby to maintain a temperature in said auxiliary compartment above the temperature in said refrigerated compartment and suitable for preserving butter and the like.

(To Be Continued)

Home Freezer Specifications

Here is your ad-opportunity of the year in the growing freezer market!

The May 31 issue of AIR CONDITIONING & REFRIGERATION NEWS is the much-in-demand annual freezer issue. Contains detailed specifications on more than 350 major makes and models of home freezers!

Used by manufacturers, dealers, and salesmen all year round. Thousands of extra copies ordered annually—plus over 19,000 distribution to paid subscribers!

Remember, your ad in AIR CONDITIONING & REFRIGERATION NEWS reaches the right man. More key men among leading freezer manufacturers read the News than any other industry publication.

Space is on high priority and time is short. Make your reservation now. Phone Bob Price, Allen Schildhammer, Dick Cleary, or Detroit.

CLOSES MAY 21

Robert M. Price
521 Fifth Ave.
New York 17, N. Y.
Murray Hill 7-7158

Allen Schildhammer
134 S. LaSalle St.
Chicago 3, Ill.
FRanklin 2-8093

Richard Cleary
Commercial Bank Bldg.
Berea, Ohio
BErea 4-7719



**AIR CONDITIONING &
REFRIGERATION News**

450 West Fort Street, Detroit 26, Michigan, Woodward 2-0924

Handy Way To Subscribe

Receive the greatest trade paper in the Industry—AIR CONDITIONING & REFRIGERATION NEWS. Published every week. Brings you latest news and vital information on air conditioning, commercial and industrial refrigeration, home freezers, and household refrigeration; manufacturing, contracting, distributing, retailing, and servicing. Only \$6.00 per year, 52 issues.

Fill in coupon and mail today

AIR CONDITIONING & REFRIGERATION NEWS
450 West Fort Street, Detroit 26, Michigan

Gentlemen: Send the NEWS for one year.

\$6 enclosed Bill me Bill the company

Name.....

Company.....

Street.....

City..... Zone..... State.....

My line of business is.....

5-10-54

Home and Farm Freezer Sales by NEMA Firms Hit 50,594 for February

Summary for February and First Two Months, 1954

Electric Farm and Home Freezers—Complete—Sales by Sizes—Units

Farm and home freezers complete with high and low side and cabinet, where 50% or more of the net cabinet capacity is designed for the freezing and/or storage of frozen foods.

FEBRUARY (22 Companies)

Sizes	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1. Less than 5 cu. ft.			*	*
Chest Models	*	*	*	*
Upright Models	†	†	†	†
2. 5 and 6 cu. ft.				
Chest Models	*877	*	*18	*895
Upright Models	†	†	†	†
3. 7 and 8 cu. ft.				
Chest Models	1,805	50	110	1,965
Upright Models	†	†	†	†
4. 9 and 10 cu. ft.				
Chest Models	3,750	21	118	3,889
Upright Models	+988	+2	+30	+970
5. 11 and 12 cu. ft.				
Chest Models	3,113	21	88	3,222
Upright Models	4,690	47	76	4,813
6. 12.5 to 17.4 cu. ft.				
Chest Models	14,543	169	135	14,847
Upright Models	3,935	77	144	4,156
7. 17.5 to 21.4 cu. ft.				
Chest Models	9,261	261	22	9,544
Upright Models	4,525	10	48	4,583
8. 21.5 to 30.4 cu. ft.				
Chest Models	941	23	1	965
Upright Models	+745	‡	‡	+745
9. 30.5 to 40.4 cu. ft.				
Chest Models	...	...	...	...
Upright Models	...	...	...	...
10. 40.5 to 50.4 cu. ft.				
Chest Models	...	...	...	...
Upright Models	...	...	...	...
11. 50.5 to 60.4 cu. ft.				
Chest Models	...	...	...	...
Upright Models	...	...	...	...
12. 60.5 cu. ft. and over				
Chest Models	...	...	...	...
Upright Models	...	...	...	...
Total Chest Models ..	34,290	545	492	35,327
Total Upright Models ..	14,833	136	298	15,267
Total All Models ...	49,123	681	790	50,594

FIRST TWO MONTHS (22-23 Companies)

Sizes	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1. Less than 5 cu. ft.			*	*
Chest Models	*	*	*	*
Upright Models	†	†	†	†
2. 5 and 6 cu. ft.				
Chest Models	*1,215	*	*18	*1,233
Upright Models	†	†	†	†
3. 7 and 8 cu. ft.				
Chest Models	4,082	92	283	4,457
Upright Models	†	†	†	†
4. 9 and 10 cu. ft.				
Chest Models	5,912	22	182	6,116
Upright Models	+1,112	+2	+41	+1,155
5. 11 and 12 cu. ft.				
Chest Models	6,834	162	194	7,190
Upright Models	10,762	73	262	11,097
6. 12.5 to 17.4 cu. ft.				
Chest Models	29,380	388	220	29,988
Upright Models	9,493	136	199	9,828
7. 17.5 to 21.4 cu. ft.				
Chest Models	15,520	328	52	15,900
Upright Models	9,290	31	52	9,373
8. 21.5 to 30.4 cu. ft.				
Chest Models	1,825	50	7	1,882
Upright Models	+1,391	‡	‡	+1,392
9. 30.5 to 40.4 cu. ft.				
Chest Models	...	...	...	...
Upright Models	...	...	...	...
10. 40.5 to 50.4 cu. ft.				
Chest Models	...	...	...	...
Upright Models	...	...	...	...
11. 50.5 to 60.4 cu. ft.				
Chest Models	...	...	...	...
Upright Models	...	...	...	...
12. 60.5 cu. ft. and over				
Chest Models	...	...	...	...
Upright Models	...	...	...	...
Total Chest Models ..	61,768	1,042	956	66,766
Total Upright Models ..	32,048	242	555	32,845
Total All Models ...	96,816	1,284	1,511	99,611

*Chest models for items 1 & 2 combined because of possible disclosure of individual company data.

†Upright models for items 1-2-3-4 combined because of possible disclosure of individual company data.

‡Upright models for items 8 & 9 combined because of possible disclosure of individual company data.

Participating companies: Admiral Corp.; Appliance & Electronics Div., Avco Mfg. Corp. (Crosley & Bendix Divs.); Ben-Hur Mfg. Co.; Carrier Corp.; Deepfreeze Appliance Div., Motor Products Corp.; Frigidaire Div., General Motors Corp.; General Electric Co.; Gibson Refrigerator Co.; Hotpoint Co., Div. of General Electric Co.; International Harvester Co.; Kelvinator Div., Nash-Kelvinator Corp.; Masterfreez Home Locker Mfg. Co.; Maytag Co., The; Norge Div., Borg-Warner Corp.; Philco Corp., Major Appliance Div.; Quicrefz, Inc. (formerly Sanitary Refrigerator Co.); Revco, Inc.; Seeger Refrigerator Co.; Servel, Inc.; Victor Products Corp.; Westinghouse Electric Corp.; Wilson Refrigeration, Inc.; A. J. Lindemann & Hoverson Co. (out 2-1-54).

Government Contracts

DEPARTMENT OF DEFENSE

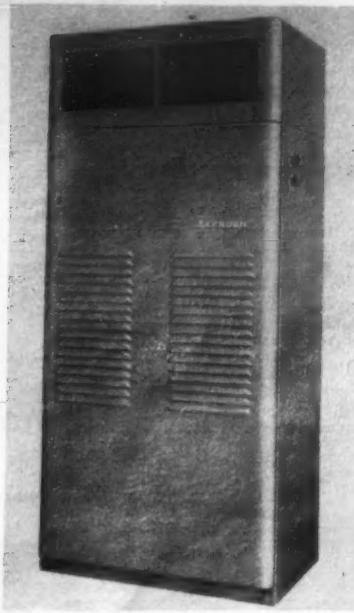
Description	Quantity	Invitation No.	Opening Date
Office of the Contracting Officer, 1360th Air Base Group, Air Photo. & Charting Serv. (Mats) U.S.A.F., Orlando AFB, Fla. Services and material to furnish and install air conditioning systems in five (5) hospital buildings, Orlando Air Force Base, Orlando, Florida.	Job (08-614-54-26-8)	12 May 54	
Chicago Quartermaster Depot, Quartermaster Purchasing Division, Chicago, Ill. Bid Forms Now Available, Do Not Request After Opening Date. Range Electric Domestic 3903 ea. spec W-R-101A.	54-239B	10 May 54	
Oven baking or roasting 2 deck electric spec MIL-O-12594A (QMC). Refrigerator, mechanically cooled 8-cu. ft. capacity. Spec AA-R-211C.	60 ea. 54-242B	21 May 54	
Purchasing and Contracting Officer, Redstone Arsenal, Huntsville, Alabama. Chamber, test, temperature, complete with blower and motor, heating elements, cooling coils, controls, recorders, etc.	6091 ea. 54-233 B	17 May 54	
Headquarters, Air Materiel Command, Dayton, Ohio. Sem. trailer van photographic equipment air transportable air conditioned type MC-2 in accord with spec MIL-S-81 (Class 68A (ASG) dtd 28 April 53).	51 ea. RFP 54-51	17 May 54	
Purchasing and Contracting Office, Fort Hood, Texas. Air conditioning of Buildings Nos. 3239 and 3240, Fort Hood, Texas.	Job ((E)41-093-54-90)	24 May 54	
Contracting Officer, Local Purchase Branch, WCUR WADC, Wright-Patterson Air Force Base, Ohio. Steel fan blades, fairings, belts, washers, jigs, and fixtures for wind tunnel.	Lot (IPB-33-616-54-94)	1 Jun 54	
The Post Engineer, Fort Leonard Wood, Missouri. Installation of air conditioning units with cooling towers, complete, in seven buildings in U. S. Army Hospital.	7 bldg. (AV 23-037-54-39)	10 May 54	
Purchasing and Contracting Branch, Ft. MacArthur, San Pedro, California. Installation of pressure and temperature relief valves. Job (AVI-04-225-54-28B)		12 May 54	

GENERAL SERVICES ADMINISTRATION

Description	Quantity	Reference No.	App. Bid Date
Business Service Center, General Services Administration, Region 5, 575 U.S. Courthouse, 219 S. Clark St., Chicago 4, Ill. Refrigerators:			
No. Spec	8 ea.	CHD-1062	18 May 54
Fed. Spec. AA-R-211c	87 ea.	CHD-1062	18 May 54
VA Spec. 7-VA-M-4300G	22 ea.	CED-1062	18 May 54
General Services Administration, Business Service Center, Region 3, 7th & D Sts., S.W., Washington 25, D.C. Ventilators, motor-driven, 450 c.f.m. approximately 10' fan operates at 1550 r.p.m. with 40-watt input.	20 ea.	(93-00-201-4224)	12 May 54
Refrigerators, 8 cu. ft. with freezer compartment approximately .92 cu. ft. equipped with three ice cube trays, three adjustable racks, freshener compartment.	8 ea.	(93-00-201-4224)	12 May 54
Water Chiller	1	4H-43972-R	18 May 54
Circulating Pumps	2	4H-43972-R	18 May 54
Cooling Tower (domestic delivery)	1	4H-43972-R	18 May 54

CONTRACTS AWARDED THROUGH APRIL 30

Ships Parts Control Center, Mechanicsburg, Pa. Repair parts for refrigeration equipment.—12,395. \$100,000.—Carrier Corp., 300 S. Geddes St., Syracuse, N.Y. Repair parts for compressors—\$6,065. \$52,011.—Worthington Corp., 401 Worthington Ave., Harrison, N.J. Repair parts for coolers—\$9,908. \$31,657.—General Motors Corp., Harrison Radiator Div., 500 Elm St., Lockport, N.Y. District Public Works Office, First Naval District, 485 Summer St., Boston 10, Mass. Central Heating Plant Extension at the U.S. Naval Air Station, Quonset Point, R. I. NOV-29585.—Job, \$23,000. D. C. Loveys Co., 1430 Massachusetts Ave., Cambridge, Mass. Office in Charge of Construction, Bureau of Yards and Docks, Contracts Ninth Naval District Bldg. 1-A, Great Lakes, Ill. Addition to Central Heating Plant at the Air Force Base, Bunker Hill, Ind. NOV-76136.—Job, \$603,517.—The J. F. White Engineering Corp., 6999 W. Colfax Ave., Denver, Colorado. Sacramento Air Materiel ARE, McClellan Air Force Base, McClellan, California. Air Conditioning Equipment—Various types and quantities, \$38,469.—Moore & Hanks Co., 9702 E. Rush St., El Monte, Calif. Chicago Quartermaster Depot, 1819 W. Pershing Rd., Chicago 9, Illinois. Refrigerator: Mechanically cooled, 8-cu. ft. capacity, 54-182.—1027 ea., \$107,054.—Frigidaire Sales Co., 300 Taylor St., Dayton, Ohio. Refrigerator: Mechanically cooled, 8-cu. ft. capacity, 54-182.—1027 ea., \$104,117.—R. Cooper Jr., Inc., 836 S. Canal St., Chicago 7, Illinois.</td



Model 64.

Typhoon --

(Concluded from Page 1, Col. 4) returned to the factory when trouble develops.

However, because of the hermetic seal, it is generally conceded that this type is less likely to have trouble caused by impurities leaking into the refrigerant system, and is also not so easy for

amateurs to tamper with.

The 2 and 3-hp. models have been redesigned to fit into the same cabinet used for the 5-hp. Typhoon unit. This cabinet, new this year, is constructed of heavy gauge furniture steel, in order to reduce vibration and noise.

The steel cabinet panels are formed into rigid channel and angle sections electrically welded into a compact, sturdy cabinet, and lined with acoustic and thermal insulation. One easily handled front cover simplifies service.

A standard feature in all Typhoon packaged units is the all-copper shell-and-tube condenser, with all connections, silver-soldered, on the outside. Inside the shell are straight lengths of condenser tube, silver-soldered into the tube sheet, thus eliminating any possibility of internal leaks. Condensing surface is large so that moderate pressures are maintained even with higher temperature water.

The Typhoon cooling coil is also constructed of copper, with bonded helical fins, and has a high ratio of prime surface.

Besides the smaller packaged air conditioning units, Typhoon also manufactures packaged units up to 25 tons capacity, packaged heat pumps from 3 to 25 tons, and residential year-round units. The company also has a line of window units.

Tecumseh Plant --

(Concluded from Page 1, Col. 5) and will be operated in the same manner as the Emeryville plant. Cliff Knudson will be in charge.

Tecumseh reports that the West Coast service plant is extremely important to customers selling in California, Colorado, Arizona, Washington, Oregon, Utah, Nevada, Idaho, New Mexico, and El Paso, Texas. Savings in both time and freight costs to these customers for the repair of Tecumseh compressors made this prompt reopening mandatory in the eyes of Tecumseh management.

The new location is convenient for all truck and rail transportation and a complete stock of compressors will be carried.

Leases New Quarters

HOUSTON, Texas—Keith Refrigeration Co., which services and repairs refrigerators and other electrical appliances for Houston distributors, has leased a new location at 1719 Ruiz St.

**POCKET THERMOMETER
REFILL**
New Magna-Lens
Easy to read—Fits all cases
-30° F. to plus 120° F.
\$1.35 each—3 for \$3.00
See your jobber or send direct
H. L. PROUSE
R.D. 2, Route 38, Morristown, N.J.
Jobber inquiries invited.

**MOTOR BASE ADAPTERS
Sell Many Other Items**
Keep them in stock. Servicemen will pick up adapters and motors, carry them in their cars, and complete service on the job in one call. Eliminates delay of having motors away for rebuilding. Adapters are easy to install, fit any base. No rotor shaft too long or too short. They also bring you more sales in motors, belts, pulleys, controls, etc.
SIZES FOR ½ to 3 H.P. Inclusive
Engineering Research Associates, Inc.
3475 East Nine-Mile Road
Hazel Park, Michigan

1954 HOME FREEZER SPECIFICATIONS

WILL BE INCLUDED IN THE MAY 31 ISSUE OF
AIR CONDITIONING & REFRIGERATION NEWS

You will want extra copies of this outstanding issue. Take advantage of these quantity rates to provide a copy for each of your key men to use throughout the year.

1-9 copies 40¢ each
10-49 copies 30¢ each
50 and up 20¢ each

ORDER TODAY TO RESERVE YOUR COPIES!

AIR CONDITIONING & REFRIGERATION NEWS

450 W. Fort St., Detroit 26, Mich.

Gentlemen: Reserve in my name copies of the May 31 issue of Air Conditioning & Refrigeration News containing HOME FREEZER SPECIFICATIONS for 1954. Please ship these to me at the address given below as soon as possible.

Payment enclosed Bill company

Name
Company
Street
City Zone State

5-10-54

NEMA Sales--

(Concluded from Page 1, Col. 5)

Twenty-two freezer manufacturers sold 50,594 units, just 3% more than in January but 40% fewer than in February, 1953. In the first two months their sales were 41% under last year. This year's sales, however, were slightly better than in 1952.

For refrigerators, export sales somewhat cushioned the drop in February. Domestic sales were down 13% from last year and 6% from January. Canadian sales were down 54% from last year but up 1% over January. Sales to other foreign countries were 31% ahead of last year and 51% above January.

As of Feb. 1, A. J. Lindemann & Hoverson Co. ceased reporting refrigerator and freezer sales to NEMA.

Schein Heads Contract Sales for Admiral In N.Y.

NEW YORK CITY—Robert M. Schein has been appointed supervisor of the contract division of Admiral Distributors, Inc., New York Div.

Schein was formerly Pennsylvania representative of Central Iron and Steel Co., Harrisburg, Pa., and a district manager in the apartment house and builders division of Crosley Distributing Corp.

Summary for February and First Two Months, 1954
Complete Electric Household Refrigerators Only—Sales by Sizes—Units

FEBRUARY (15 Companies)

Sizes	Domestic	Canadian	Foreign	Total
1. Less than 4 cu. ft....	...	...	...	...
2. 4 cu. ft.	1,715	...	63	1,778
3. 5 cu. ft.	79	24	22	125
4. 6 cu. ft.	3,684	3	2,166	5,853
5. 7 cu. ft.	27,529	483	2,428	30,440
6. 8 cu. ft.	80,057	960	6,349	87,366
7. 9 cu. ft.	63,843	1,341	4,435	69,619
8. 10 cu. ft.	41,775	878	2,358	45,011
9. 11 cu. ft.	60,224	699	1,753	62,676
10. 12, 13 cu. ft. and up..	29,801	272	1,181	31,254
11. Total	308,707	4,660	20,755	334,122

Refrigerators Having Two Exterior Doors (All Sizes Included In Above)

33,991	65	988	35,044
--------	----	-----	--------

FIRST TWO MONTHS (15-16 Companies)

Sizes	Domestic	Canadian	Foreign	Total
1. Less than 4 cu. ft....	...	...	...	...
2. 4 cu. ft.	2,661	...	244	2,905
3. 5 cu. ft.	92	24	25	141
4. 6 cu. ft.	11,961	104	3,717	15,782
5. 7 cu. ft.	54,181	594	3,408	58,183
6. 8 cu. ft.	156,926	2,173	11,754	170,853
7. 9 cu. ft.	131,429	1,919	6,482	139,830
8. 10 cu. ft.	83,955	1,658	3,349	88,962
9. 11 cu. ft.	124,540	2,276	3,781	130,597
10. 12, 13 cu. ft. and up..	68,768	505	1,697	70,970
11. Total	634,513	9,258	34,457	678,223

Refrigerators Having Two Exterior Doors (All Sizes Included In Above)

75,874	233	1,784	77,891
--------	-----	-------	--------

Participating companies: Admiral Corp.; Appliance & Electronics Div., Avco Mfg. Corp. (Crosley and Bendix Divs.); Deepfreeze Appliance Div., Motor Products Corp.; Frigidaire Div., General Motors Corp.; General Electric Co.; Gibson Refrigerator Co.; Hotpoint Co., a Div. of General Electric Co.; International Harvester Co.; Kelvinator Div., Nash-Kelvinator Corp.; A. J. Lindemann & Hoverson Co. (out 2-1-54); Norge Div., Borg-Warner Corp.; Philco Corp.; Major Appliance Div.; Quicfrez, Inc. (formerly Sanitary Refrigerator Co.); Seeger Refrigerator Co.; Servel, Inc.; Westinghouse Electric Corp.

The Wholesaler Can Help You Sell

HERE is a common denominator found in all kinds of business from the biggest of corporations to the so-called one-man show.

That's the basic requirement that to make a profit you have to sell.

And it's a problem which is most acute for the little guy. Why? Because he is forced to be a jack of all trades. He's got to be a craftsman, purchasing agent, financier, tax expert, truck driver and, on Saturday afternoons, he's got to sweep the floors. Yes, and he has to sell, too!

If you fall into that category, it will be a comforting thought to know that there is a host of friends at your side. One is your wholesaler. He's willing to sit down and discuss ways and means for you to get more business. He maintains a display room for you to use when you want to show customers the products you are recommending.



BUY FROM YOUR WHOLESALER
PLANTS IN DETROIT, MICHIGAN, AND DECATUR, ALABAMA. SALES OFFICES IN PRINCIPAL CITIES.



WOLVERINE TUBE DIVISION
of Calumet & Hecla, Inc.
Manufacturers of Quality-Controlled Tubing
EXPORT DEPARTMENT, 11 EAST 47TH STREET, NEW YORK 18, NEW YORK

HOW WE PIN POINT YOUR SALES ABILITY AND
HELPFULNESS TO YOUR CUSTOMERS AND PROSPECTS